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REPORT

A SPECIAL REPORT ON

INFLATION

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accompanied by the Council's

13th QUARTERLY REPORT

FORWARD

The problem of inflation has been with us for a very long time and recently has been worsening. The issue is a complex one, not only for the United States but for all the nations of the industrial world. There are no simple solutions.

In this Special Report on Inflation the Council on Wage and Price Stability, which is charged with monitoring and analyzing inflationary developments in both the public and private sectors of the economy, attempts to provide a comprehensive background on the issue.

It deals with the roots of the current problem, the reason it has not responded to traditional remedies, the social and economic costs of a prolonged high inflation rate and other facets of the present dilemma. It addresses in particular the inflation issue from aggregate and disaggregate perspectives.

The Council hopes the study will be useful in the search for a solution. It hopes, as well, that it will promote both public discussion and understanding of this very serious national concern.

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TABLE OF CONTENTS

TABLE OF TABLES

TABLE OF TABLES

TABLE OF FIGURES

CHAPTER I

INTRODUCTION

For more than a decade inflation has been a critical problem for the American economy. Without question, considerable progress has been made since the double-digit rates of 1973-74. The costs of that progress, however, have been enormous. The number of unemployed workers rose from 4.3 million in 1973 to a peak of 8.4 million in mid-1975. Even today, after three years of economic recovery, the figure remains above 6 million. The worst recession of the postwar period has cost the nation $400 billion in lost output over the last four years. Yet only a small part of the reduction in the rate of inflation can be attributed to the restraining influence of that recession. Most of the improvement is attributable instead to expanded agricultural harvests that sharply reversed the earlier upward surge in food prices and to stability in world petroleum markets that encouraged a moderation of energy price increases. But even with moderation in these sectors and extremely high levels of unemployed labor and capital, the underlying annual rate of inflation remains stubbornly above 6 percent.

The President has announced a new voluntary program for achieving deceleration of inflation. It relies on coordinated efforts to restrain price and wage increases in individual industries. The economic reasoning underlying this specific program, as well as its objectives, can best be understood by considering four broad questions:

-- What is the future outlook for inflation in the absence of further government actions?

-- What are the underlying forces that sustain the current inflation?

-- What would be the costs of allowing inflation to continue at its projected rate?

-- What would be the best time to initiate an anti-inflation policy?

-- What kind of approach is best suited for dealing with this unorthodox, and seemingly intractable, inflation.

The Inflation Outlook

There have been few discernible signs of moderation in the inflation rate since the middle of 1975. It has,

in fact, become painfully evident that what had been deceleration in the rate of inflation has now become a plateau. While the overall rate of increase in consumer prices has fluctuated, these movements can be traced primarily to short-run variations in food and fuel prices. If those volatile items (together with erratic movements in mortgage interest rates and used car prices) are excluded from the Consumer Price Index, there has been only slight variation from a basic underlying annual rate of 6 percent. There is little evidence that this rate is accelerating at current levels of economic activity. But, neither is there any evidence that it is decelerating.

An examination of wage rate changes shows a similar pattern. The rate of increase in hourly compensation (inclusive of private benefit programs and employer taxes) has stuck within the range of 8 to 9 percent annually in recent years. At the same time, the cyclically adjusted rate of productivity growth has averaged about 2 percent, down about a percentage point from the performance of the 1950s and 1960s. This implies a continuing increase in unit labor costs that is in line with the current rate of price inflation. Hourly earnings have been rising at a slower pace than total compensation -- reflecting the importance of rapid increases in both the coverage and costs of health and pension programs, as well as rising employment taxes. But available measures of hourly earnings fail to provide evidence of deceleration. The best measure of actual wage rates for the nonfarm economy -- the Employment Cost Index -- indicates a rise of 7.2 percent in 1976 and 7.0 percent in 1977.

This pattern of repetitive wage and price increases shows no sign of abating. In the absence of specific corrective actions, an extension of the current inflation rate into the future seems virtually inevitable. While the actual inflation rate may fluctuate from month to month in response to volatile movement in individual prices, the underlying rate seems hopelessly stuck within the range of 6 to 7 percent.

This forecast, however, does not take into account the possibility of future disruptions to the economy. It does not anticipate renewed scarcities in agriculture markets; it does not anticipate any large increases in petroleum prices. Nor does it make any allowances for other economic disruptions that are, at this time, not even remotely foreseen. Economic history teaches us, however, that we would be indeed naive not to expect some surprises somewhere down the road. In addition, the nation is committed to sustaining the current expansion and reducing unemployment. Very high levels of unemployed labor and excess capacity have been required

to stabilize inflation at current levels. These restraining influences will decline as the economy returns to more favorable levels of resource utilization. If our goals for reducing unemployment are combined with the potential for the unexpected, it is quickly apparent that even a forecast of 6 to 7 percent inflation is in jeopardy. The risks of higher future inflation are far greater than the possibility of deceleration.

The Causes of Continuing Inflation

Efforts to respond over the last decade to the frustrating problem of inflation clearly demonstrate that today's dilemma is more complex than the traditional emphasis on excess aggregate demand might suggest. There are two separate aspects of the inflation problem. First, with hindsight, it is not difficult to identify factors that initiated past inflation, including both excess total demand and sudden changes in supply or demand conditions in major individual markets. But it is far more difficult to explain the second aspect -- the stubborn persistence of inflation long after the initiating forces have been reversed or removed. It is the latter problem that has repeatedly defied policy remedies.

The worsening inflation of the 1970s has resulted primarily from the increased frequency and magnitude of the shocks and disruptions that have impacted on the economy. These events also have served to highlight the importance of accumulated structural changes in the economy. These structural changes, which have stretched over several decades, have reduced the ability of the economy to absorb these shocks in a noninflationary fashion. In combination, they have reduced gradually the sensitivity of inflation to short-run fluctuations in demand. In effect, competitive market restraints on some price and wage increases have become limited.

Labor markets, for example, operate far differently from what is portrayed in simple textbook models of competition. The existence of labor unions and professional organizations, changing social attitudes, legal wage rate requirements, and the development of administrative mechanisms for allocating jobs within firms shield many workers from the direct influence of competitive forces. These changing institutional arrangements have been an important means of improving working conditions and providing workers with some control over their environment in a large, impersonal and complex industrial society. But they have also altered the process of wage determination.

Similarly in product markets, economies of scale, product differentiation, high fixed costs and long construction periods often limit the number of firms that are in immediate price competition with one another. Measures of industrial concentration have not changed dramatically in the postwar period, but increased specialization has reduced the degree of short-run competition in specific product lines. Furthermore, these technological changes imply that decisions to enter a market or expand capacity are dominated increasingly by long-term considerations rather than purely cyclical developments. Thus, the short-term responsiveness of prices to fluctuating demand conditions has diminished.

The growth of the public sector, increased government regulation of private decisions, the growth of noncompetitive sectors such as medical care, and the declining relative importance of the more price competitive sectors such as agriculture also have contributed to the greater rigidity of the overall price and wage structure and to the lengthening of the lag in the economy's response to changing market conditions. In the growing not-for-profit sector of the economy, competitive pressures to minimize costs are typically not the dominant influence on price and wage decisions.

The process of inflation has also been complicated by increased reliance on long-term contracts of both a formal and informal nature. Because many price and wage rates are not subject to continuous review and modification, they are not immediately responsive to changing market conditions. Long-term contracts are an essential element of capital intensive economies, but they can introduce severe distortions when they fail to reflect accurately the course of future events. The reliance on multi-year collective bargaining agreements in labor markets, together with the highly disaggregate nature of negotiations, does dampen the response to inflationary shocks. But, at the same time, the process makes it more difficult to achieve a rapid deceleration.

Finally, the operation of the economic system has been affected by changing views of what is expected and demanded from it. Many of the institutional changes reflect an effort to humanize the system and to moderate the most inequitable features of unrestrained competition, but, at the same time, they have complicated the problem of unwinding inflation.

Not all of these factors are of equal importance for all markets. But, for the economy as a whole, they have had a combined effect of reducing normal competitive restraints on individual price and wage decisions and lengthening the time over which they occur. While they are by no

means absent in today's economy, competitive forces --particularly in the short run -- have been dampened by this evolution of institutions and social attitudes.

In some respects, past inflation has been a lubricant for the social system, a means of avoiding direct conflicts among strong competing groups over the distribution of income. People naturally want to catch up with rival groups, maintaining or even improving their relative position. More is promised to every interest group (e.g., higher nominal incomes, a cleaner environment, or other aspects of general welfare); but without agreement from others to accept less. The difficulty is that the sum of the gains -- promised and anticipated -- exceeds the economy's capacity to provide them, and ultimately inflation becomes the means by which those promises are scaled down. In the end, this process of reconciling promises or anticipations with reality is relatively impersonal and avoids the direct conflicts that otherwise would result.

This means of resolving conflict was tolerable as long as inflation remained within modest bounds and productivity growth provided some real dividend to be distributed without meaning a loser for every gainer. But the process has steadily accelerated in the U.S. and in other market economies. In this respect inflation is not solely an "economic problem," but is, as well, reflective of rather major changes in the social, political, and economic structures in Western democracies.

The Costs of Inflation

The costs of inflation are reflected primarily in a redistribution of income and a loss of economic efficiency. It has been suggested that a sustained rate of inflation, once it becomes fully anticipated, will eliminate much of the damage caused by unforeseen changes in income distribution. Over the long run, interest rates and other terms of contracts will adjust to expectations of continuing inflation. Such a view, however, deserves important qualifications. Since a technologically advanced society relies on contracts of long duration, the process of adjustment would stretch over many years. In this sense, history showed that inflation trends cannot be fully anticipated, for they never remain at a steady rate over a significant time period. Even if the inflation was anticipated the tax system extracts a rising portion of real incomes. The problem is complicated by the recognition that individuals vary in their ability to predict future inflation trends. Even if inflation could be accurately predicted, many savers would not be able to

act on their expectations. There will be inevitable difficulties of interest rates adjusting to changing inflation expectations in an economy when institutions borrow short and lend long. Some savers -- particularly small ones -- are handicapped by regulations that place a ceiling on saving deposit interest rates, are excluded from the government bond market, and in some cases are unaware of opportunities in such expensive markets as real estate or art objects. Some groups are notably weaker than others in their ability to adjust their income to a changing inflation outlook.

Accepting the current rate of inflation would not remove pressures for further acceleration. Once a 6 percent inflation is accepted as normal, the same pressures that drove it from zero to 6 percent likely would, in future years, push it from 6 to 10 percent or even higher.

Wide variations in the rate of inflation have an equally sharp impact on economic incentives. These variations put a premium on attempting to beat inflation rather than expanding current production. There would be considerably more speculation about the future and less attention to producing goods and services.

Moreover, there is evidence that higher rates of inflation imply a more variable inflation rate and a wider dispersion of price changes among individual markets. Modern economies require their participants to plan activities and make commitments which extend over long time periods. Yet, the increased uncertainty introduced by sharp changes in relative prices and the rate of general inflation increases the frequency of mistakes in such plans, increases investment risks, and reduces economic efficiency.

Finally, it may be true that the public overstates the costs of inflation in failing to recognize that what is an inflationary price increase for some is an increase in income for others. Too often, only the price and wage increases of others are seen as inflationary because individuals regard their own gains as a fair reward for increased effort or as a defense against the inflationary actions of others. Thus, everyone believes that he has lost from inflation. And even though this view may be incorrect, high rates of inflation reduce personal satisfactions and heighten tensions among groups in society.

These factors are all reflected in public attitudes. Indeed, as polls reveal, inflation is typically viewed as the nation's most serious economic problem. But progress in reducing inflation is also essential to the goal of reducing unemployment. Measures to expand the economy and

to create more jobs cannot maintain public support in the face of increasing inflation, even if that acceleration is not caused by excessive demand. Moreover, the Federal Reserve cannot be expected to accommodate the economic recovery in future years without some evidence of progress against inflation. Finally, there is accumulated evidence that an unanticipated inflation itself reduces public confidence and retards expenditure plans of consumers and business.

The Timing of Action

The development of an effective anti-inflation policy must be considered within the context of two major themes: (1) the development of means of offsetting the pressures, shocks, and disruptions which initiate an upsurge of inflation, and (2) dampening the current ongoing momentum of inflationary pressures that are inherited from the past. Of necessity, the first issue had to be the primary focus of concern in 1977. At the beginning of the year there were major fears of an imminent return to the high inflation rates of 1973-74. Grain reserves were severely depleted, the outlook for world petroleum prices was highly uncertain and there were fears that a continued economic expansion would be accompanied by a return to capacity shortages in several major material producing industries. Recent experience had already indicated the importance of providing reserves for those commodities whose supply was uncertain, as well as the need to develop a more effective means of anticipating potential future inflationary pressures. Preventing an upsurge of inflation was the primary theme of the President's April 1977 inflation message. Going beyond this with a major program to dampen the inflation seemed questionable at a time of such uncertainty.

Since then, however, the situation has changed significantly. Good weather brought forth high levels of grain production and a new farm bill incorporated provisions for building a reserve to meet the threat of future crop failures. World petroleum prices have remained relatively stable in response to a temporary excess of supply and an improved dialogue between the oil consuming and producing nations. Several years of continued production at low rates of utilization have reduced earlier fears of severe shortages of industrial capacity and have allowed time for a more rational analysis of the problem. The inadequacy of industrial capacity will be a significant longer term threat and the emphasis of the tax reform bill on investment incentives is aimed at addressing these problems. For the near-term, capacity limitations are a significant threat in only a

few industries. In some cases, the slow pace of the economic recovery in other industrial countries provides a reserve of capacity in basic materials for international markets. But in other industries -- such as aluminum, lumber and home insulation -- we have not been effective in expanding supplies, and the possibility that producers will be unable to meet projected demand is disturbing. But such capacity problems fortunately are limited.

Strong efforts to dampen the momentum of inflation during 1977 were also hampered by conditions in labor markets. The year 1977 represented the last half of a round of major union contract negotiations. It would have been extremely difficult and inequitable to argue that those who negotiated new agreements prior to an anti-inflation program were subject to one standard of performance and those who negotiated later were subject to another. There clearly would have been a problem with a pattern that had become so firmly established in earlier negotiations. But 1978 marks the end of that bargaining round. It is a pause that offers an opportunity to seek moderation.

On the price side, most industries have had an opportunity to adjust to the disruptive events of an explosive increase in material costs followed by a severe recession. On average, profit margins remain low. But this depressed condition primarily is a reflection of low operating rates and not an imbalance of price-cost relationships. Adjusted for cyclical fluctuations and inflation, the return on capital is comparable to the average of the postwar period. Thus, a rise in prices relative to costs is not a necessary part of the inflation outlook.

At the same time, further delay in achieving some progress toward reducing inflation could be costly. If a deceleration of inflation cannot be initiated when unemployment is above 6 percent, it will be even more difficult in future years when unemployment is lower and there is a substantially higher rate of capacity utilization.

Alternative Policies

The range of alternative anti-inflation policies that have been proposed at one time or another may seem endless. But, for purposes of discussing their major features, they can be grouped conveniently into a few major categories: (1) policies aimed at restraining demand, (2) a focus on avoiding inflation-inducing actions of the government and the strengthening of competition in private markets, (3) voluntary programs that ask people to restrain their wage

and price increases, (4) incentive programs that make it in individuals' own interest to limit demands, or (5) wage and price controls. The advantages and disadvantages of each of these alternatives are outlined.

Demand Restraint

Unquestionably inflation can be brought to an end by reducing overall demand. Such an action today is constrained only by a consideration of its costs -- a recession and levels of unemployment even more severe than 1975. While observers may differ over the magnitude and duration of the restraint required, it clearly exceeds even the very high levels of unemployment reached in recent years. A typical result of statistical analyses of the recent inflation experience suggests that a 1 percent reduction in the level of aggregate demand ($20 billion) would reduce inflation by 0.15 percentage points in the first year and 0.3 percentage points in the second. In other words, a one percentage point reduction in the inflation rate would require an annual loss of about $100 billion in output and 2.5 million jobs. But the costs would be reflected in the loss of half a million jobs for each $20 billion reduction in demand.

Furthermore, a period of severe demand restraint could contribute to inflation in the future by discouraging investment that would lead to capital shortages and lower labor productivity, as well as by heightening workers' interest in and need for job protection and income security plans. The current inflation has resulted largely from external or international developments in various commodity markets rather than from a generally overheated domestic economy, and has persisted at unacceptable levels despite an already large decline in economic activity. Thus, a strategy of further demand restraint would exacerbate the nation's social and economic problems without holding out the promise of significant progress against inflation.

At times the discussion of demand restraint is put in terms of reducing federal budget deficits or slowing the increase in the money supply. The means by which each of these policies are expected to reduce inflation is similar. They aim at lowering demand, reducing employment, creating slack in labor and product markets, and thus exerting downward pressures on prices and wages. They pose the inevitable conflict caused by fighting inflation through higher unemployment.

The observed high costs of demand restraint policies as a cure for an ongoing inflation, however, do not suggest, on the other hand, that excess demand pressures cannot initiate an acceleration in inflation. As the economy moves

toward lower levels of unemployment and higher levels of capacity utilization, the pressures for higher price and wage increases will intensify. But, the relationship between changes in demand and inflation is not a linear one and the inflationary threat of demand increases is greater at low levels of unemployment than within the current context of 6 to 7 percent unemployment.

Structural Reforms

It has become evident that government, through a wide range of administrative, legislative, and regulatory actions, is an important contributor to inflation. Actions such as raising employment taxes and the minimum wage add to production costs and thus to prices. Similarly, import restraints that shield individual industries from foreign competition come at the costs of higher prices to consumers. Mandated expenditures to protect the environment and to improve the health and safety of workers also have become significant sources of cost increases in recent years.

Undoubtedly, most of these added costs are justified by national concerns of equal or greater importance than inflation. No one argues that clean air, clear water and the public health are not vital. But, they are not free. Too often, the inflation impact of these actions is not fully considered in the decisionmaking process. In part, because the costs are not included in government budgets, they are not subjected to the same scrutiny as expenditure programs of equal size. In our rush to correct past abuses and assure against future damage, we perhaps have not given enough thought to alternative methods that cost less but achieve the very same goals.

The impact on inflation of each individual decision admittedly is small. But taken together the result is substantial. The diffuse concern with inflation, however, typically loses to the more immediate and focused concerns of specific interest groups.

In the private sector as well, there are opportunities to strengthen competition by removing outdated regulatory restrictions and pressing for anti-trust actions in those industries where market domination cannot be justified by economies of scale in production or distribution. But again, a realistic appraisal of the prospects for such actions suggests a limited gain on the inflation front. Today, for example, efforts to reduce regulation in the transportation and communication industries are resisted most vigorously by those who are supposed to be regulated. Thus far, they

have been largely successful, despite the accumulating evidence that more competition in these sectors would have substantial benefits to consumers in the form of lower prices.

Some of the structural changes in the economic system such as the development of large firms and labor organizations have contributed to the improvements in labor productivity and living standards that modern economies enjoy. In these cases, a major move away from large economic organizations would imply lower productivity. This does not suggest, however, that policies to promote competition in those sectors where the economies of scale are absent should not be vigorously pursued as part of an anti-inflation program but, they cannot be the whole.

Voluntary Restraint

This category includes a large number of proposals ranging from formal guidelines to informal efforts to deal with inflationary problems and distortions at the level of individual markets and industries.

The guidepost program of the early 1960s was an attempt to formulate criteria for noninflationary wage and price behavior. The general wage guide called for limiting wage and benefit increases to the trend in economy-wide productivity growth. If wage increases were, on average, equal to gains in productivity, unit labor costs would be unchanged. While individual prices would change relative to one another as a reflection of variations in productivity trends and market conditions among industries, the overall price level and unit labor costs would remain constant. The guideposts provided a basis for discussing publicly what constituted responsible price and wage behavior. In fact, their primary value may have been educational by illustrating that aggregate improvements in real incomes were limited by productivity increases and that money wage increases in excess of productivity growth only resulted in higher average prices.

But, in operation, the guideposts encountered several serious problems. They lacked effective incentives to induce compliance since they relied on jawboning and other public pressures to reduce price and wage increases after they had occurred. This led to a focus on a few highly visible industries. In addition, the guideposts lacked an effective criterion for price increases since firms were expected to pass through cost increases. Thus, they failed to address the problem of strengthening incentives for firms to hold down their own costs. The guidepost approach has also been criticized for setting a floor on wage increases. An examination of the distribution of wage increases during

the 1960s however suggests that this was not the case. Similarly, the data indicate that the general standard of the 1972-73 controls period did not become a floor. Finally, some argue that the guideposts' emphasis on a single number did not adequately combine a general standard with an orderly resolution of conflicts over the relative wage structure. It implicitly reflected an assumption that the existing structure was correct.

While there is no universal agreement, much of the statistical analysis suggests that guideposts had some impact during the early 1960s in restraining the acceleration of inflation. But, because guideposts were inaugurated in an era of relative price stability, the problem they addressed was quite different from the current situation where inflation is high and the goal is to achieve deceleration rather than to maintain the status quo.

Alternatives to guideposts have stressed the need to develop specific programs tailored to the peculiar circumstances of individual sectors of the economy. Such approaches can be responsive to the diversity in economic conditions across industries and disparities in the wage structure. They require a far more detailed knowledge of individual price and wage situations. They need, as well, an overall guiding concept if they are not to be arbitrary. Finally, it is difficult to coordinate such actions in a fashion that insures a simultaneous reduction in overall inflation, so that individual groups who take a step toward moderation do not end up losing through the failure of others to do the same. Most fundamental, all of these voluntary approaches are subject to the criticism that they may be ineffectual because they lack a means of assuring compliance.

Incentive Programs

Most recently, there has been considerable interest in the potential use of programs that are aimed at strengthening the incentives for individual private parties to restrain their own price and wage increases. One version would rely on employer tax increases for wage increases above a specific level. Thus, it is an enforcement mechanism for guidelines. But this proposal has several serious problems. First, it emphasizes wages as a source of inflationary pressures. But, in recent inflation episodes, wage rate increases have not been the initiating force. There seems no reason to point to a single aspect of the overall problem. Second, if the tax fails to alter private decisions, a levy on excess wage increases would increase costs and would be passed on in higher prices. If, on the other hand, the

tax should be shifted onto profits, it would imply a distortion of investment decisions as firms with the most rapid rate of increase in labor costs would find that higher taxes discouraged capital investment.

Alternative proposals would provide tax reductions for those who voluntarily limit their increases to a specific amount. This approach avoids the problems of adding to inflationary pressures. But there would be difficult administrative problems. On the price side, the administrative costs of computing a weighted average price increase for firms producing many products whose transaction prices vary from day-to-day would be substantial. These difficulties are compounded by a consideration of the problems introduced by quality change and new products. Even during the height of the recent controls period, a majority of American firms were exempt from such administrative monitoring. It would be difficult indeed to exempt firms from a program that provides tax incentives.

The administrative problems may be easier to resolve on the wage side where the program could focus on average wage and benefit increases for an employee group. Thus, no attempt would be made to measure individual wage changes, and all members of a group would be eligible for a tax reduction or expenditure payment as a guarantee that they would not lose to higher prices. Yet, the difficulties of defining an employee unit in a fashion that recognizes different bargaining organizations would remain.

Such programs are most understandable if they are viewed as a means of protecting the purchasing power of those workers who cooperate in an effort to moderate inflation. Certainly workers are exposed to greater risks if they agree to restrain their own increases in anticipation that others will do the same. If the program does not work, they cannot, like firms, immediately raise their wage rates to recover a loss of real income. Thus, the incentive might be structured in the form of a guarantee that those workers, whose wage increases are below a specified magnitude, would be compensated for price increases above that level. In effect, they would be guaranteed against a loss of real income.

These incentive plans have the major advantage of responding to the view that normal market forces exert an inadequate and severely delayed restraining influence on price and wage increases. They are in most respects supportive of normal market forces while introducing less distortion than other alternatives. Yet, the administrative problems seem substantial, even for wages, and may not be

resolvable on the price side. Thus, they might have to be combined with other measures aimed at obtaining restraint on price increases. They do, however, deserve a good deal more examination and debate to determine if they have merit.

Price and Wage Controls

Wage and price controls have been used successfully only as a short-term emergency measure in periods such as during wartime. They have controlled inflation but, as with demand restraint, the costs have been considerable. The previous episode of peacetime controls led to an increase in the magnitude of distortions among individual markets, inequities, and strong pressures for their removal. Because they are, at best, a short-term measure, they seem inappropriate as a response to the continuing long-term inflation problem that the nation faces today. They do not address the underlying problems of structural changes in the way that the wage and price process operates.

Controls involve very serious and costly enforcement problems. The determination of the appropriate prices required to balance supply and demand and to provide incentives for future expansion is not a simple process. It involves complex decisions on allocating overhead and joint costs among many products. Yet, even small mistakes can sharply alter investment incentives and create future shortages. If prices are held below market clearing levels, they must be replaced by some other allocative scheme.

In labor markets, controls also require the resolution of difficult equity issues. It is inevitable that the resolution of conflicts over relative wages will become more of a political process and less responsive to economic considerations.

The fear of controls, at times, has been used as an argument for not undertaking other milder actions to address the inflation threat. Yet, the historical experience provides no support for the notion that these other measures are a "step toward controls." Earlier episodes of controls evolved out of a prior policy of doing nothing and not from a gradual evolution of voluntary measures. If this nation should again be forced into price and wage controls, they are more likely to result from a failure to attend the problem by more appropriate means.

A Program for Reducing Inflation

It is evident from the previous discussion that there is no painless or simple solution to the inflation problem. But, it is also clear that inflation is not curing itself

and that the future cost of continuing inflation will be high. While the risks of a sharp acceleration of the inflation rate have been reduced, we cannot point to similar positive developments that would make possible a significant moderation of the inflation rate from its current high plateau.

To combine an economic expansion with decelerating inflation is a major challenge, particularly in the third and later years of a business cycle recovery. Such a combination has never previously been achieved. And it indeed is unlikely to happen simply by letting events follow their normal course. The President has proposed a cooperative program that aims at a sustained deceleration of the inflation rate over the next several years. The program and its objectives were discussed in the Annual Report of the Council of Economic Advisers. The following is an outline of that effort.

Government Actions Toward Moderating Inflations

The government must recognize that its own actions are frequently important sources of inflationary pressures. Thus, the President has proposed several actions.

-- The tax-reform program significantly expands incentives for capital formation as a means of sustaining the expansion and promoting the growth of industrial capacity and productivity.

-- The government is committed to maintaining a responsible long-run budgetary policy that balances the concern for sustaining a strong growth of employment with the need to avoid sudden and excessive surges in aggregate demand relative to the available supply.

-- Effective programs to deal with structural unemployment must be developed if future efforts to expand job opportunities are not to stimulate inflation.

-- The Administration will strengthen its review and analysis of the government regulatory process with the objective of simplifying procedures and assuring that the objectives of the regulations are achieved in the most cost-effective fashion.

-- The Congress has been asked to approve a hospital cost-containment program to restrain the extremely rapid rise in medical care prices.

-- The nation's grain reserves will be expanded as a protection against future supply shortages.

-- The Congress has been asked to approve two modest but positive tax actions that would reduce prices directly: repeal of the telephone excise tax and reduction of the Federal unemployment insurance tax.

-- The objective of deceleration in the rate of inflation will be applied in the determination of federal pay increases in a fashion similar to that suggested below for the private sector.

The Private Sector

The actions listed above will not alone be sufficient. Slowing inflation while business activity expands will require an effort to decelerate price and wage increases across a broad array of individual markets. The momentum of the current inflation does not result from unrestrained self-interest or the large price and wage increases of a few. Rather, it reflects the momentum of general price and wage increases that are based on catching up with past inflation, keeping up with others, or on general expectations of continued inflation at the current or higher rate.

The general characteristics of a deceleration program for the private sector and its rationale are presented below. Some of the qualifications to the general concept which would have to be recognized in applying the principle to specific situations are discussed, and methods for consultation between the private sector and the government are reviewed.

Rationale for a Deceleration Approach

The inflation problem cannot be quickly or dramatically solved. It will be necessary, instead, to demonstrate sustained progress toward achieving a lower rate over the next several years. Thus, the program focuses on a deceleration of the overall inflation rate with the explicit recognition that such overall moderation will have to result from

deceleration in the vast majority of individual markets. It begins with the initial proposition that deceleration should and could be achieved in every market. Individual firms should aim to achieve a smaller price increase, and individual wage increases should be less, than in the prior two years of 1976-77. The use of a two-year average as a starting basis avoids the arbitrariness of a single year. Yet, to extend it back into the recession year of 1975 would cause serious cyclical distortions. In the case of formal labor contracts, the provisions of the new contract over its full term should be compared with those of prior agreements.

It is important, however, to emphasize that the amount of deceleration in wage rates and prices that can be achieved may vary from situation to situation. In other words, an equal amount of deceleration is not expected in every labor market or industry. Differences in factors such as profit margins, labor productivity, import competition, demand pressures and past wage performance lead to the recognition of several qualifications:

Wages. A focus on deceleration of individual increases is especially difficult on the wage side, because of wide variations in past wage gains.

-- Deceleration cannot be the same for all. Those who have received the largest increases in recent years should decelerate more, and vice-versa. There also may be very special cases where recent gains have been so small as to permit no deceleration.

-- There should be a recognition of the need for variations in relative wages from historical trends in response to newly emerging tendencies (such as skill changes, locational shifts, employment growth, changes in productivity trends, the competitive position of a specific industry, etc.).

-- Also, changes in work rules or practices that significantly affect productivity would be recognized as an integral part of any wage settlement.

-- The program will be consistent with the normal institutional framework of collective bargaining.

-- For those situations where wage rates are established without a multi-year contract, the increase during the year in average hourly employment costs

(exclusive of mandated employment taxes) should be measured against the annual average increase of 1976-77.

-- Multi-year contracts should be evaluated on a contract to contract basis. But, such agreements should reflect the need for continued deceleration in future years.

-- A lower rate of price increase will translate into lower wage increases in those labor contracts with cost-of-living escalator clauses, but more than a passive response will be required.

-- The 1978 increases in employment taxes and the minimum wage will add to employment costs. The deceleration of wages and private benefits, therefore, will have to be large enough to offset these increases if any effective price deceleration is to be achieved.

Prices. Similar qualifications will be required with respect to prices:

-- Depressed price-cost margins relative to the historical record will tend to rise toward the average. Certainly, there should be no criticism of firms that lowered their price-cost margins during the recession and are now restoring those margins as demand strengthens. However, the improvement in profit-margins, as the expansion continues, should come primarily from higher volume rather than increased prices relative to costs at standard volume. It is evident, also, from economy-wide data that such a rise of prices relative to costs at standard volume should not be a general occurrence.

-- Uncontrollable cost acceleration may result from mandated programs (such as regulatory programs, employment tax increases, and minimum wage changes), tax changes, or imported raw materials; thus some flexibility should apply in those situations. Prior labor contracts may result in cost acceleration which is traceable to decisions made prior to the initiation of the deceleration objectives.

-- Falling raw materials prices, increased productivity gains, or reduced second and third year wage increases under multi-year labor contracts should result in greater-than-average deceleration.

Implementation of the Program

The focus on a deceleration concept at the level of individual markets has several advantages relative to alternative voluntary programs.

-- It recognizes that basic rates of price increases must vary among markets because of differences in productivity growth and material cost trends. Yet, virtually all should be able to achieve some deceleration.

-- Similarly for wages, the program provides a means for reflecting the role of changes in the relative wage structure and other nonwage elements (such as work rules and practices) of collective bargaining agreements.

-- It provides an understandable and directly applicable objective far in advance of specific individual wage or price decisions. For example, any discussions with the government would take place before the cost increases have occurred and while some discretion with respect to prices still exists. The focus is on efforts to strengthen incentives to minimize future cost increases. Confrontation over numerous individual price actions are avoided since the objective refers to cumulative price actions over a calendar year.

-- It is, as well, a conceptual framework for government actions that makes less arbitrary the selection of specific sectors for focusing efforts to reduce inflation. It provides a framework for evaluating and coordinating a wide range of government policies which affect prices and costs. Efforts to address the inflationary implications of those actions should be more effective within the context of the need to achieve price deceleration in specific markets.

But this program, like all voluntary approaches, must address the need for assuring effective implementation. To achieve this objective the Administration will first undertake some significant actions on its own to initiate

deceleration. Second, in order to assure that the objective of price deceleration is given strong emphasis at the level of individual markets, the Administration will undertake discussions with individual industry and labor groups with respect to specific areas which constitute a significant inflation problem. On the price side, firms would be approached separately; or, in those situations where there would be no anti-trust concerns, jointly as an industry group. They would be requested to discuss with the Council on Wage and Price Stability the outlook for cost increases and market conditions. These discussions will involve cost projections and anticipated supply and demand trends. An effort will be made to assess the major sources of price increases and to identify specific actions that the parties could undertake to contribute to a moderation of price and cost increases.

The criteria for selecting industries for such discussions will include their importance to the economy, their influence on other sectors of the economy, the existence of discretion of individual firms in setting prices and the occurrence of major current developments affecting prices or costs.

The discussions of major wage negotiations will precede the beginning of bargaining. They will focus on a review of past trends in relative wages, effects of the previous settlement, productivity, and other conditions relevant to the environment of the negotiations. These discussions will provide an opportunity to emphasize the importance of deceleration, possible improvements in productivity and a review of potential barriers to achieving deceleration.

The Administration will also undertake to assess these private decisions with respect to their consistency with the deceleration objective. It will be the responsibility of the Council on Wage and Price Stability to monitor these trends and to be prepared to report on them publicly.

Given the persistence of a high and continuing rate of inflation, the only strategy which holds promise for returning to reasonable price stability is a gradual and pervasive deceleration of wages and prices. The principal benefits of a deceleration strategy can best be appreciated over a multi-year time frame. In the absence of such a longer-term strategy, there can only be a further institutionalizing of the inflation momentum, making eventual resolution even more difficult and traumatic in its effect on

the economy. Gradual deceleration supports expectations that price increases will continue to slow, greatly increasing the likelihood that successively lower rates of inflation will be factored into wage and price decisions in future periods. Taking into account its favorable effect on sustaining economic expansion, a successful deceleration effort will improve gains in output, employment, and real income.

CHAPTER II

INFLATION TRENDS

The events of recent years offer ample evidence that the causes of inflation are far more complex than simply aggregate demand conditions. An inflationary cycle is initiated by more than just overall demand pressures. Shifts in demand and supply conditions in individual markets can have a dramatic impact on the overall price level, and they are not offset by declines in other prices except at enormous costs of high unemployment and wasted resources. But, even in the absence of major initiating forces, the momentum of inflation, once it has continued for a lengthy period, becomes built into the economic structure, and efforts to reduce it can be very costly. Individual price and wage increases are a result, in part, of the expectation that inflation will continue, and by acting on these anticipations we collectively assure that it will.

This chapter contains a brief review of the United States' experience with inflation over the past decade and outlines the changing importance of such factors as domestic aggregate demand conditions, international economic developments, and supply disruptions, in explaining inflation. In addition, alternative measures of price and wage inflation are presented.

An aggregative view of inflation is presented in Chapter III which begins with a description of the relationship between inflation, labor costs and industrial capacity. Recent trends in labor income are reviewed, shifts in the structure of wages are documented, and various factors contributing to the slowdown in the growth of labor productivity are outlined. The discussion of trends in factor income is rounded out by an examination of alternative measures of the return to capital. The chapter concludes with a brief review of the role of aggregate demand in the inflation process.

In Chapter IV several individual sectors of the economy receive special attention. Inflationary pressures in the medical care, food, housing and energy sectors are discussed. The inflationary impact of government actions -- outside the sphere of traditional fiscal and monetary policies -- is given special attention.

A Review

The complexities of the inflationary process are illustrated by a review of the past decade during which the variety of initiating factors and the difficulty in slowing the momentum are evident. At times, excess aggregate demand has been an important initiating force, but other factors, such as supply disruptions, changes in international markets, sudden shifts in the composition of demand, exchange rate adjustments, and government regulatory and legislative actions have also made major contributions. After the initiation of an inflationary process, when the disturbances are magnified and transmitted throughout the economy, the influence of institutional rigidities is particularly evident. Prices and wages continue to rise with a self-sustaining momentum, despite idle capacity and high levels of unemployment.

Excess Demand in the Late 1960s

The current inflation stems from conditions of the late 1960s when the economy achieved very high levels of employment and overall resource utilization. The proportion of the labor force unemployed dropped to its lowest rate since the Korean War, averaging 3.8 percent over the last half of the decade. But, a highly inflationary fiscal policy during the Vietnam War period placed severe strains on an economy nearing full employment and capacity utilization after a long period of steady growth in real output stretching back to 1960. The inflation of consumer prices, which had averaged near 1 percent in the 1960-65 period, steadily accelerated throughout the latter half of the decade, and peaked at a 5.7 percent annual rate during 1969.

The 1970 Recession

The recession that began in late 1969 set back much of the progress in reducing unemployment achieved over the prior decade. The unemployment rate rose to 6 percent by the end of 1970. Yet, inflation continued at a rapid pace. The advance of consumer prices gradually slowed to a 4 percent annual rate in the first half of 1971 but much of this was due to a sharp reversal of the previous tight monetary policy which had the short-term impact of drastically reducing the mortgage cost component of the Consumer Price Index. If mortgage interest costs are excluded from the CPI, the underlying rate of inflation remained at about 5 percent throughout 1970 and the first half of 1971 compared to 5.7 percent

during 1969. At the same time, the growth in average hourly earnings within the private non-farm sector actually accelerated in 1970 and early 1971.

The failure of inflation to decelerate by a more significant amount during the 1970 recession seemed quite inconsistent with the previous excess-demand oriented explanation of inflation where wages and prices would adjust rapidly to changes in demand conditions. Thus, the time-honored tenet that inflation could be conquered with relatively little cost to the economy was severely shaken. Subsequent explanations of the inflation process have placed a much greater emphasis on the length of the lags in the adjustment of wages and prices to market conditions. The result has been a sharp rise in the estimated magnitude and duration of the demand restraint required to slow the momentum of an ongoing inflation.

Controls

On August 15, 1971, a wage and price freeze was announced, followed by wage and price controls. During the period of controls, the rate of consumer price increases did moderate, rising at only a 3.3 percent annual rate during the last half of 1971 and 1972. Controls did nothing, however, to attack the underlying causes of inflation. As a result, during every subsequent round of modification -- from Phase I through the termination of Phase IV -- the inflation was renewed at higher rates.

The effectiveness of controls is still a matter of some controversy. 1/ However, there is general agreement that the initial price-wage freeze was effective. There is also fairly general agreement that after the institution of Phase III in January 1973 the controls had little significant restraining influence on inflation. It is generally accepted that the continuation of controls through 1973, despite rapidly changing economic conditions, created some severe distortions and worked to exacerbate the explosion of the inflation which followed.

The Acceleration of Inflation in 1973-74

The latter stages of the controls period witnessed a sharp increase in the number and magnitude of potential

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1/ See Jerry E. Pohlman, Inflation Under Control?, Reston Publishing Co. (Reston, Va., 1976), pp. 203-220, for a summary of several studies.

forces pushing the inflation rate upward. The expansive fiscal and monetary policies of late 1971 and 1972 brought about a significant reduction of the unemployment rate in 1972 and it continued to drift down in 1973 to below 5 percent. Industrial capacity utilization rates rose substantially. Thus, there was a significant tightening of aggregate demand conditions.

The Federal Reserve, which had been following an expansionary monetary policy during much of 1972, switched to sharp restraint in 1973. Rates of growth of the monetary aggregates dropped sharply, and Treasury bill rates rose from under 3.5 percent in mid-1972 to over 8 percent in the summer of 1973. Although this tightening of credit conditions may have been necessary to counter the overly rapid expansion during 1972, the immediate impact on the price level was unfortunate, since mortgage interest costs, which had fallen in 1971 and 1972, rose nearly 15 percent during 1973, and over 10 percent in 1974.

The major inflationary pressures of 1973 cannot, however, be blamed on domestic economic policy. During the year, several major price shocks hit the economy -- all of which were only marginally influenced by domestic market conditions.

The first of these shocks was the precipitous rise in agricultural prices in 1973 and 1974. The food component of the Consumer Price Index had risen at a 4.6 percent annual rate in 1971 and 1972. In 1973, this component rose by 22 percent; in 1974, by 12 percent.

This was difficult to handle by itself. But it was coupled with another major shock, the Arab oil embargo and the steep oil price increase by the Organization of Petroleum Exporting Countries (OPEC) in late 1973. The jump in imported oil prices, together with the similar movement in prices for "new," "released," and "stripper" domestic crude oil (which by October 1974 jointly accounted for 34 percent of domestic production) and the concomitant rise in other energy prices, had a major impact on prices, especially in 1974. In that year alone, the energy component of the CPI rose nearly 22 percent, and from the end of 1972 through 1975 it rose by nearly 60 percent.

Third, aggregate demand was high in 1973, not only in the U.S., but also in the other industrial countries. To a greater extent than in previous cycles, the economic recovery in the U.S. was paralleled by a similar expansion in other countries. The most obvious result of this was the rapid

rise in the prices of commodities other than oil and agricultural products. On world markets these prices rose by 80 percent between the middle of 1972 and late 1974. Intermediate products such as primary metals and chemicals also rose sharply in response to world-wide shortages. In addition, a sharp decline in the value of the dollar between mid-1971 and 1973 drove up the prices of imported goods and eased competitive pressures on some import-competing domestic producers.

Each of these events was of sufficient size to have a significant direct impact on the overall price level. Their influence was not limited to direct effects, however, as the passthrough of cost increases into other prices broadened the inflation and the rise in consumer prices initiated strong efforts by wage earners to recover losses in real income. As a result, the inflation in prices for consumer items other than food and energy accelerated from 3.5 percent in 1972, to 8.3 percent in 1973, and 11.5 percent in 1974. The increase in the average hourly earnings of wage earners accelerated from 6.7 percent in 1972 to 9.3 percent in 1974.

What emerges from this review is vivid evidence that factors other than excess aggregate demand can be major sources of inflationary pressures. It provides, as well, an example of the extent to which price increases in one sector can exert upward pressure in other sectors -- even in the presence of substantial unutilized capacity in late 1974 and 1975.

The Current Situation

The inflation has moderated substantially from the double-digit rates of 1974. Improved weather and lower agricultural prices reduced food prices at the farm level by 11 percent during 1976. Despite higher processing costs, the rise in food prices during 1976 was limited to less than 1 percent. Energy prices are no longer rising at the extreme rates of earlier years. Moderating prices in these areas and the severity of the recession -- particularly in 1975 -- did result in a significant slowing of other price and wage increases.

Unemployment today remains in the 6 to 7 percent range and capacity utilization in the industrial sector is far below normal operating rates. Yet, the inflation of both prices and wages remains very high, and there have been few signs of further deceleration since the middle of 1975.

Inflation has reached a point where the momentum of adjusting to past and anticipated future price and wage increases provides a self-sustaining mechanism for continuing inflation.

Alternative Measures Of Price Inflation

The Consumer Price Index (CPI) is the most widely reported index of prices and the one most relevant to the general public. It attempts to measure the average rate of price change for a fixed market basket of goods and services purchased by a typical urban wage and salary earner. The diversity of items included in the overall index, however, often complicates efforts to discern underlying trends in the inflation rate that are of longer term importance. Many of the items are subject to erratic short-term changes or are controlled by government regulation. In particular, food and energy prices respond to a sharply different set of forces than do the prices of other goods and services. Mortgage interest costs and used car prices have small weights in the overall index but their wide range of variation often has a significant impact.

The Wholesale Price Index (WPI) has the advantage of measuring a wider range of prices for goods sold to business as well as consumers. It also provides information on price increases for crude materials and intermediate goods that are often indicators of later price changes at the retail level. On the other hand, the WPI does not include the prices of the service-producing industries. In addition, within some industries it is necessary to rely on producers' list prices and not all of the cyclical variations in discounts and other promotional price adjustments are captured by the index. The price deflators of the National Income Accounts provide the broadest coverage of price changes for the total economy, but it is frequently necessary to rely on indirect estimates of price change in those sectors for which no direct measures are available.

The distinction between the different measures of price changes has been particularly important in the interpretation of inflation trends in recent years. As shown in Table II-1, the alternative measures all indicated similar patterns of inflation in the years prior to 1973, with the WPI typically showing a lower rate of increase because of the exclusion of services. But, when the overall inflation accelerated to an annual rate of 8.8 percent in 1973, the vast proportion of the surge was attributable to food and fuel prices. By 1974, efforts to recover earlier real income losses from food and

energy price increases led to a far more general inflation as all the individual components accelerated sharply.

It is evident, also, that a sharp drop in the rate of increase of food and fuel prices contributed heavily to the moderation of the overall inflation in 1975. In addition, the severity of the 1974-75 recession led to a significant slowing but did not end the price inflation in other sectors. Finally, the leveling out of the inflation rate in the range of 6 percent during 1976-77 is clear in all of the indexes which exclude the highly volatile changes in food prices.

There is another way to view the inflationary process -- tracing price movements through the various stages of production from crude materials to final finished consumer and producer goods. (See Table II-1.) Although the correspondence is not perfect, for the most part price changes do follow a sequence. The prices of crude materials and intermediate products generally lead the observed changes in the prices of finished consumer and producer goods. It should also be noted that price movements at the earlier stages of production display both more volatility and greater amplitude. The finished products embody raw materials, energy, capital, and labor. Since wage changes have been less volatile than raw

TABLE II-1: ALTERNATIVE MEASURES OF PRICE INFLATION a/

	1965-70	1971	1972	1973	1974	1975	1976	1977
Consumer Price Index								
All Items	4.5	3.4	3.4	8.8	12.2	7.0	4.8	6.8
Food	3.7	4.3	4.7	20.1	12.2	6.5	0.6	8.0
Fuel	2.5	3.1	2.8	16.8	21.6	11.6	6.9	7.2
All Items less food, fuel, mortgage interest, and used cars	4.6	4.0	2.9	4.1	10.3	6.6	6.1	6.2
Wholesale Price Index								
Finished goods less food and fuel	3.4 c/	2.4	1.7	5.0	17.8	6.1	5.4	6.4
Intermediate goods less food and fuel b/	2.6	4.4	4.0	11.2	26.6	4.6	6.3	5.1
Crude materials less food and fuel	0.3	4.7	12.8	49.8	-0.9	2.6	10.3	0.7
National Income Accounts								
Private Sector less food	4.8 c/	4.1	2.9	5.3	12.6	7.2	6.2	6.5

a/ Changes are measured on December-to-December basis at annual rates except for the N.I.A. deflator which is fourth quarter to fourth quarter.
b/ WPI for Intermediate goods less food and fuel available only since 1972. Data from WPI for Intermediate goods less food used for earlier years.
c/ Average annual percent changes for 1967-70. Data for earlier years not available.

material and energy prices, it is to be expected that finished products would also show a greater degree of stability.

The observed movements in the WPI stage-of-processing indexes display the same pattern of movements revealed in the broader indexes. For instance, between 1960 and 1965 the crude materials index showed volatile movements about a zero percent overall rate of inflation. In no case did the index rise on a year-to-year basis by more than 5 percent, and there were even periods when the index declined. Between 1965 and the end of 1970, the index was still erratic, but at a higher rate of inflation, with no periods of decline. The price explosion of 1973-74 is clearly manifest in raw material prices with year-over-year increases exceeding 50 percent. The deceleration in 1974-75 was equally sharp. This was followed by another upturn in these prices in the latter part of 1975 as economic recovery occurred. This last rise was not as pronounced as the 1973-74 movement, but was sharp in comparison with the trends observed in the 1960s. The time path of the intermediate materials index is similar to that of crude materials, but does not display the same degree of volatility. Finally, both finished producer and consumer goods reflect the same underlying trends except that the patterns are even more dampened.

Thus, these WPI stage-of-processing indexes display the same results that were observed from the CPI indexes: relatively low inflation between the end of 1960 and 1965, an acceleration accompanying the Vietnam War, and some deceleration in 1970-72. The 1973-74 price explosion of crude material prices was followed by smaller percentage increases in intermediate and final product prices. The recession of 1973-75 quite clearly dampened price increases at all stages of production. With the recovery from the recession, prices again accelerated and the price change of finished goods, as measured by the 12 month changes, have remained in the 6 to 7 percent increase range for over two years.

Alternative Measures Of Labor Costs

Despite the plethora of available data on wages and employment, a single reliable measure of employment costs currently does not exist. Average hourly earnings is the most widely quoted measure of trends in wage rates. But, changes in hourly earnings reflect many factors that are not related to adjustments in basic wage rates, such as changes in overtime hours and shifts in the mix of workers among industries with different wage structures. In addition, hourly earnings

exclude important components of labor costs such as employment taxes and private health and retirement benefit programs. Thus, changes in hourly earnings can, at times, provide a distorted picture of trends in employment costs.

The BLS hourly earnings index eliminates some of these difficulties by adjusting for overtime pay in manufacturing and applying fixed weights to hourly earnings in individual industries. These adjustments significantly reduce the cyclical aberrations in hourly earnings. They do not, however, completely remove the problems caused by shifts of employment among job classifications at the level of individual firms and industries. The index still excludes fringe benefits and employment taxes, and does not cover supervisory employees in the private sector and workers in the public sector.

A comprehensive measure of total labor costs (including supplements) can be obtained by combining employee compensation data from the National Income Accounts with estimates of total manhours from the Department of Labor. The hourly compensation series has the advantage of covering wages and supplements of all workers in the private nonfarm sector. But, it is not adjusted for cyclical variations in overtime hours and industrial mix and the information on wages of supervisory employees is of low quality. In addition, the data on hours and compensation are calculated by different agencies with slightly different statistical methods. As a result, the hourly compensation measure is often subject to erratic short-term fluctuations.

Rates of change in these alternative measures of employment costs are shown for recent years in Table II-2. The cyclical importance of overtime and shifts between high and low wage industries is clearly evident in the differences between average hourly earnings and the fixed-weight hourly earnings index. During expansions, workers move into higher paid industries and overtime hours increase. During recessions the reverse occurs. 2/ Removal of these influences reveals a far more stable pattern of wage change with a

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2/ For a discussion of these cyclical employment shifts, see Arthur Okun, "Upward Mobility in a High Pressure Economy," Brookings Papers on Economic Activity, (hereinafter, BPEA) 1:1973, pp. 207-52; and Wayne Vroman, "Worker Upgrading and the Business Cycle," BPEA, 1:1977, pp. 229-252.

some of the measurement problems of wage rate indexes based on earnings data. It directly surveys a sample of actual wage rates in a fashion conceptually similar to the Consumer Price Index. Although this series extends only through the 1976-77 period, it indicates a more stable pattern of recent money wage increases averaging about 7.2 percent in both years. If account is taken of changes in supplements, the Employment Cost Index implies an overall rate of increase of about 8 percent annually in both 1976 and 1977.

Table II-2 also includes separate measures of the rate of wage increase for union wage settlements. These agreements cover about 10 million workers in settlements which individually affect more than 1,000 workers. The largest proportion of union wage increases is typically concentrated in the first year of a multi-year agreement. This accounts, in part, for the substantially higher rate of increase shown for the first year in comparison with the annual average over the life of the contract. These negotiated increases also indicate a substantial deceleration from the rates of increase obtained in 1974 and 1975.

The collective bargaining data, however, have a serious shortcoming in that they exclude cost-of-living adjustments (COLAs). (They also neglect the increases required to cover the costs of maintaining benefit programs obtained in prior contracts.) Such an adjustment could not be made with precision at the time that the contract is negotiated because future rates of inflation are unknown. The implicit assumption of zero future price increases, however, results in a serious distortion of the wage trends at a time when the proportion of workers covered by COLAs has increased from 25 percent in 1970 to 60 percent in 1977. In 1976, for example, first-year increases for contracts containing COLA provisions were originally reported as averaging 8.4 percent. But, looking backward a year later, the average increase inclusive of the COLA was 10.8 percent.

The importance of COLAs is illustrated further by the last entry of Table II-2 which shows actual wage adjustments received by union workers. This wage measure reflects the combined effects of current settlements, deferred increases from contracts signed in prior years, and cost-of-living adjustments. Unfortunately, the data do not include fringe benefits, but they are free of the influence of variations in overtime hours. During the last half of the 1960s union workers received wage rate increases of 5.2 percent annually -- below the 6 percent average increase shown for the hourly earnings index. In part this reflected a greater emphasis

smaller amount of sensitivity to cyclical changes in economic conditions.

Total hourly compensation has grown more rapidly than wages alone because of the rapid growth of employment taxes and private fringes. In 1965 these supplements represented less than 10 percent of compensation, while in 1977 they were in excess of 15 percent. The series also indicates a considerably different pattern of year-to-year changes than is shown by the unadjusted average hourly earnings of nonsupervisory workers. In part, these differences can be explained by the changes in supplements and the broader coverage of the compensation data. But conflicts remain that make it difficult to discern whether the rate of wage increase has been accelerating within the past year as suggested by the hourly earnings index or decelerating as implied by the compensation data.

A new series, the Employment Cost Index, that was recently introduced by the Bureau of Labor Statistics, avoids

TABLE II-2: ALTERNATIVE MEASURES OF EMPLOYMENT COSTS (Percent Change Fourth Quarter of Previous Year)

	Percent Change 65-70[a/]	1971	1972	1973	1974	1975	1976	1977
PRIVATE NONFARM SECTOR								
Average Hourly Earnings	5.7	6.7	6.9	7.1	8.5	6.9	7.1	8.0
Hourly Earnings Index	6.0	6.7	6.7	6.7	9.3	8.2	6.8	7.6
Compensation Per Hour	6.5	5.9	6.3	8.4	10.8	8.2	9.0	8.6
Contribution Of:								
Wages & Salaries	5.4	4.7	5.0	6.3	8.8	6.4	7.2	-
Private Fringes	0.6	0.8	0.8	0.8	1.3	1.4	1.1	-
Employer Contributions for Social Insurance	0.4	0.4	0.6	1.3	0.7	0.4	0.7	0.5
Productivity (all persons)	1.2	3.1	4.1	-0.6	-3.5	4.1	3.2	2.7
Unit Labor Costs	5.2	2.8	2.2	9.0	14.8	3.8	5.8	5.7
Price Deflator	4.3	3.7	3.0	6.1	12.7	8.0	4.9	5.7
UNION WAGE CHANGES								
Major Agreements Affecting 1,000+ Workers								
First Year	7.1	11.6	7.3	5.8	9.8	10.2	8.4	7.9
Average-Life of Contract	5.8	8.1	6.4	5.1	7.3	7.8	6.4	5.8
Total Effective Adjustment	5.2	9.2	6.6	7.0	9.4	8.7	8.1	7.8

a/ Annualized.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.

in these contracts on fringe benefits. Money wage increases of union workers generally equaled or exceeded the economy-wide average in the first half of the 1970s. But since the onset of the 1974-75 recession, union wage increases have run ahead of the average by one to one-half percentage points annually. The differential appears to be greater for the larger union settlements involving 5,000 or more workers.

The negotiated increases show a slowing in the rate of wage increase in both 1976 and 1977 for contracts involving more than 1,000 workers. However, the apparent slowing is largely the result of an increased number of small union settlements. For settlements involving more than 5,000 workers, the wage and benefit increases accelerated for the first year of the contract and declined on the basis of life of contract (excluding cost-of-living adjustments). Data on individual large contracts, discussed later, suggest that the pattern of settlements was unchanged between 1976 and 1977.

CHAPTER III

INFLATION IN THE AGGREGATE

When the economy is viewed from an aggregate perspective, the impact of material costs on inflation is limited largely to imports, crude fuels, minerals, and raw farm products. In the absence of sharp changes in the price of these materials, inflation trends are dominated by changes in unit labor costs and price-cost margins. Therefore, this chapter focuses on the recent behavior of unit labor costs and capital costs.

Unit labor costs are determined by labor compensation (i.e., wages, private fringes and payroll taxes) and labor productivity. The first section of this chapter examines the behavior of labor income. During the 1970s labor income has grown rapidly but it has just barely kept pace with prices; and there has been little or no improvement in workers' real income. This lack of growth in real labor income results primarily from the poor performance of the economy and the slower growth of productivity. Although money wage gains in the aggregate were large, there has been wide variation in individual wage experiences over the period with consequent sharp changes in the relative wage structure.

Even after adjustment for cyclical factors there has been a slowdown in productivity growth since the 1960s. Several explanations are considered, but no single factor can fully account for this sluggish performance.

One possible source of future inflation would come from attempts to widen depressed price-cost margins. Data examined in the latter part of this chapter, however, suggest that for the economy as a whole, the currently depressed level of profit margins is largely cyclical in nature; a recovery in economic activity should allow these margins to improve without the need for price increases in excess of cost increases at standard volume. The chapter concludes with a brief examination of the inflationary ramifications of aggregate demand policies.

Labor Income

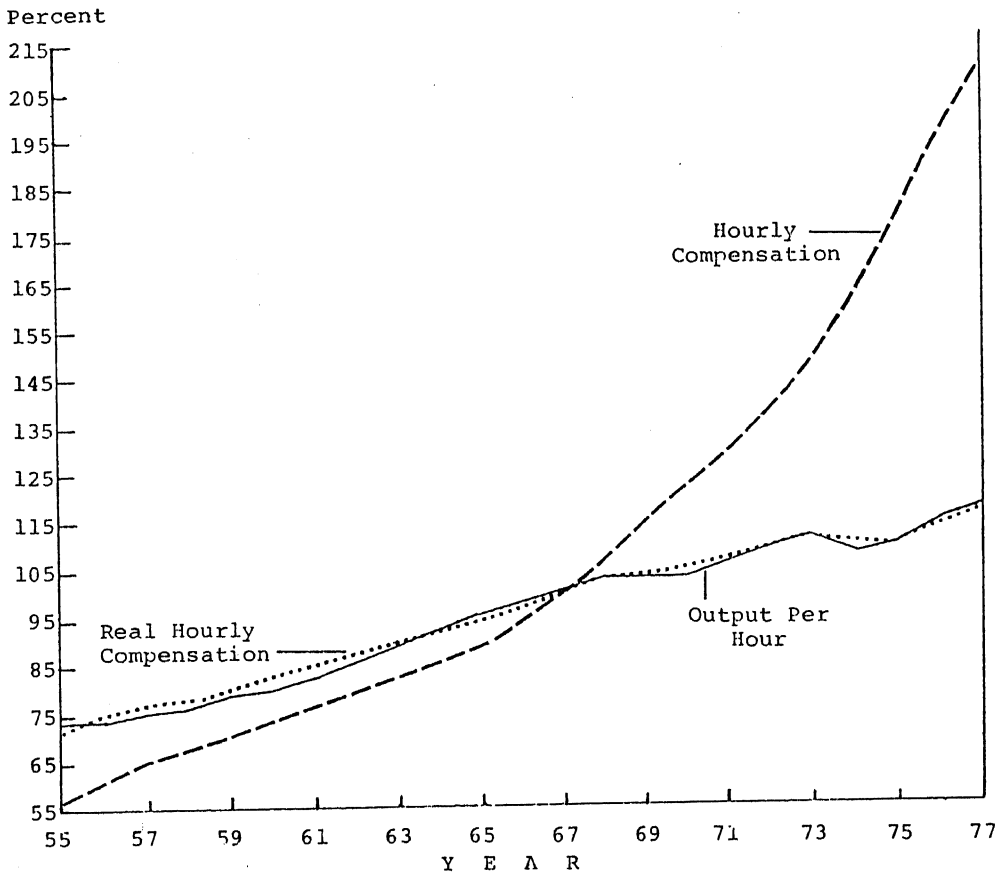
Despite large gains in money wage rates in the 1970s, this period has been a difficult one for most American

workers. Hourly wages grew far more rapidly between 1969 and 1977 than in the previous eight years. But, the large gains in money wages were simply lost through equally large increases in prices.

Slower productivity growth and a steep decline in the work week in the past eight years resulted in no growth in real weekly earnings. By contrast, from 1961 to 1969 real weekly earnings rose by 13 percent. It is important to emphasize that the phenomenon of sharply reduced real income gains was not limited to workers alone. Many other participants in the economy suffered from reduced economic growth and a slowing of productivity increases. In addition, reference to changes in economy-wide average wage rates ignores widely disparate changes among individual labor groups.

The importance of productivity growth to real income gains is clearly illustrated in Figure III-1. Money wage increases that are not offset by productivity growth simply

FIGURE III-1: INDEXES OF PRODUCTIVITY, REAL AND NOMINAL COMPENSATION - PRIVATE NONFARM BUSINESS, ALL PERSONS (1967 = 100)



SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.

add to unit labor costs. Unless they are absorbed by business with a consequent decline in profit margins, excess wage increases are reflected directly in higher prices with no improvement in real income. To the extent not absorbed, the fast growth of money wage rates during the 1970s has been cancelled out by larger price increases.

Sources of Real Income Gains

The relationship between hourly compensation increases and gains in real spendable earnings is outlined in Table III-1. Since 1969, hourly labor compensation has increased at nearly twice the rate of the prior eight years. Yet, these nominal gains accompanied a far smaller increase of labor productivity than that of the previous period. The result was a 62.8 percent growth in unit labor costs. Not all of these cost increases (as seen in Table III-1) were passed forward into higher industrial output prices, and labor, as a whole, did gain from a slight increase in its share of total income in the nonfarm sector. The gain in labor's share in the nonfarm sector, however, was offset by larger than average price increases for food and fuel which pushed up prices of the goods that workers purchased by 65.3 percent.

The impact on real spendable earnings was magnified by several additional factors. First, workers took a large proportion of their gains in the form of improved private fringe benefits, thereby lowering their money wage gains. The costs of maintaining an existing package of fringe benefits also escalated dramatically -- primarily in response to sharply higher medical care costs. In addition, there was a series of large increases in employment taxes for social insurance programs. Hourly money wage payments rose by 74.1 percent in comparison to the total compensation increase of 83.2 percent.

Furthermore, the growth in weekly earnings was limited by a trend toward a shorter work week -- a trend that accelerated during the 1970s in response to the severity of the 1974-75 recession and the reduced level of economic activity. In fact, weekly earnings of nonsupervisory workers were virtually unchanged (-0.2 percent) between 1969 and 1977 after adjustment for inflation. (See Table III-1.)

On the other hand, if account is taken of increased income taxes and employee social security contributions, real spendable earnings for a worker with three dependents,

TABLE III-1: THE RELATIONSHIP BETWEEN HOURLY COMPENSATION AND REAL EARNINGS, 1961-77 (Private Nonfarm Business Employees)

	Percentage Change	
	1961-1969	1969-1977
Total Compensation All Employees		
Hourly Compensation	49.2	83.2
Labor Productivity	19.8	12.5
Unit Labor Costs	24.5	62.8
Output Price Deflator	20.9	60.2
Consumer Price Index	22.5	65.3
Real Hourly Compensation	21.8	10.8
Components of Hourly Compensation		
Private Fringes	88.0	180.7
Employer Contributions for Social Insurance	83.1	136.4
Wages and Salaries	45.7	74.1
TOTAL	49.2	83.2
Take-Home Pay (Nonsupervisory Employees)		
Average Weekly Hours	-2.3	-4.2
Average Weekly Earnings	38.3	65.0
Consumer Price Index	22.5	65.3
Real Average Weekly Earnings	13.2	-0.2
Real Spendable Earnings a/	9.6	2.9

a/ Real average weekly earnings adjusted for income and Social Security taxes for a worker with three dependents who uses the standard deduction.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.

as estimated by the Department of Labor, rose by 2.9 percent. A large fraction of this increase is due to the Tax Reduction and Simplification Act of 1977. This law reduced the income tax liability for married workers earning the average weekly wage. In effect, shifts in the distribution of the income tax burden have offset increases in employment taxes and the rise into higher tax brackets for some workers whose income is near the average wage level. The change in real spendable earnings also does not reflect the increased trend toward smaller families and the greater frequency of two earners per family. Even so, the growth in real spendable earnings in the last eight years is sharply lower than the 9.6 percent growth achieved in the earlier period.

It is clear that the problem of slow growth in real earnings cannot be solved by larger gains in average money wage increases. Increases in compensation in excess of productivity result in either higher prices or reduced incomes for other contributors to production. The fact that labor income has not improved in recent years is simply a reflection of the poor performance of the general economy and does not represent a loss of relative position.

Wage Rate Structure

Wages of individuals vary considerably by occupation, industry, skill level, geographic location, union status, and demographic characteristics. There has been considerable stability in the wage structure over the long run and rankings have, in general, been maintained during periods of inflation through roughly proportionate increases in all wages. Substantial changes in the wage structure have occurred in recent years, however, because of uneven expectations of inflation and sharp cyclical fluctuation in economic activity. These changes in the wage distribution have had an important influence on the dynamics of the inflationary process. A desire to maintain or improve one's relative position in the wage structure is an important motivating force in many wage setting situations.

Adjustments in the relative wage structure can be expected to result from changes in competitive conditions. Industries with a high level of demand will offer higher wages, while reduced demand in other markets will put downward pressure on those wages. Technological change may alter the desired skill level of the workforce, thus changing the relative wage structure. Changes in the degree of competition from imports have also exerted an important influence.

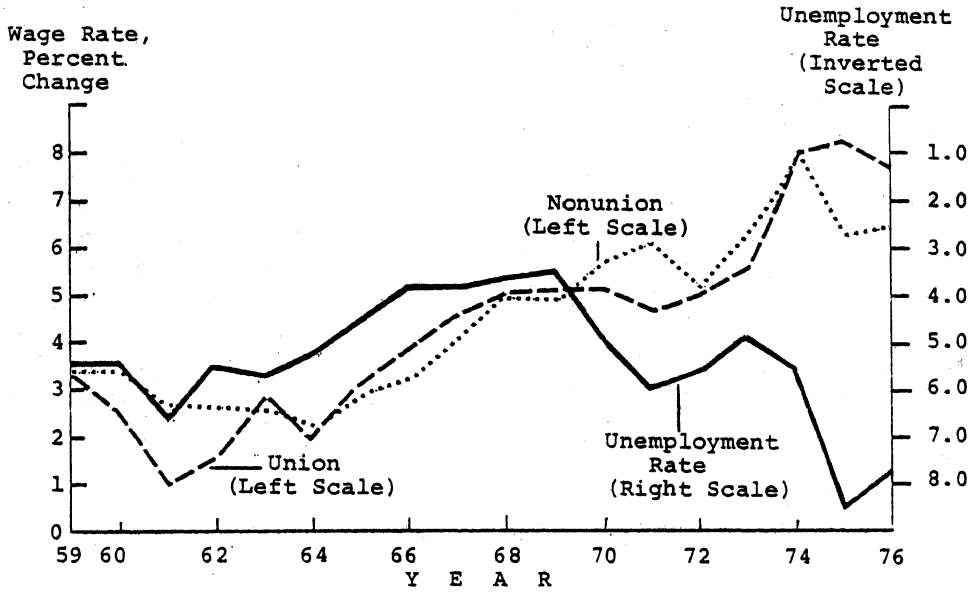
Trends in labor supply can also affect relative wages. Some jobs are viewed as more attractive than others and changes in workers' valuation of these nonwage characteristics can often force an adjustment of wage rates. Increased interest in scientific and engineering professions during the 1960s, for example, resulted in high levels of unemployment in these professions during the early 70s and a substantial moderation of wage increases. Artificial limitations on entry into the medical and legal professions through licensing restrictions have in the past limited the responsiveness of their fees to competitive market conditions. Efforts to eliminate labor market discrimination against minorities and women should raise the wages of these groups relative to the rest of the labor force.

There also have been changes in the relative wage structure which cannot be traced to changing labor market conditions. Since 1973-74, for example, those workers with cost-of-living provisions in their wage contracts have received wage increases substantially larger than those of other workers. Furthermore, the long term nature of labor contracts can generate temporary imbalances as mistaken expectations of future economic conditions lead to a wide dispersion in the size of wage increases.

An examination of the wage rates of various subgroups of workers indicates that significant changes have occurred in the wage structure of American industry. For example, steelworkers' hourly earnings were about 35 percent above the private nonfarm average in 1967, but were about 65 percent above the average in 1977. A similar rise in relative wages is evident in other basic industries. On the other hand, wages for workers in the apparel and other textile industries were 24 percent below the private nonfarm average in 1967, and about 31 percent below the average in 1977. At the beginning of the last recession in 1973, wages in contract construction were significantly above those in coal mining and steel, but in 1977 the average construction wage was below that of coal miners and steelworkers. The change in relative position of construction workers resulted largely from the severe impact of the recession on the construction industry and the competition from nonunion contractors.

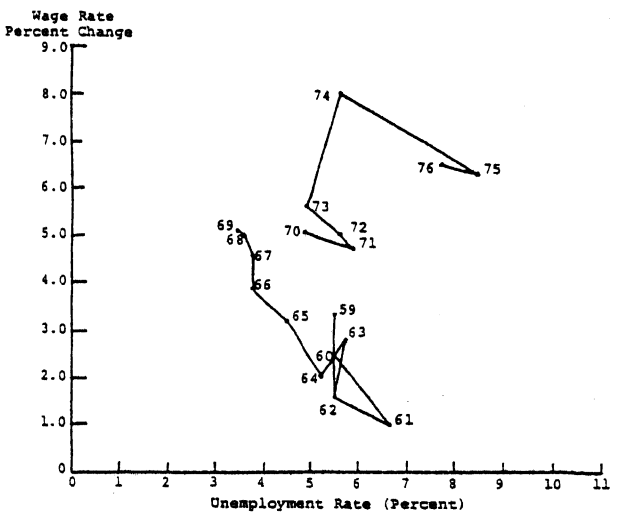
Reductions in relative wages often cause workers to try to recoup their relative position. Such efforts are likely to be more successful when the loss of relative position is due to shortrun factors such as recessions or lack of COLAs, rather than a secular decline in demand caused by such factors

FIGURE III-2: UNION AND NONUNION EFFECTIVE WAGE ADJUSTMENT VERSUS THE UNEMPLOYMENT RATE (Median Percentage Changes for Manufacturing)

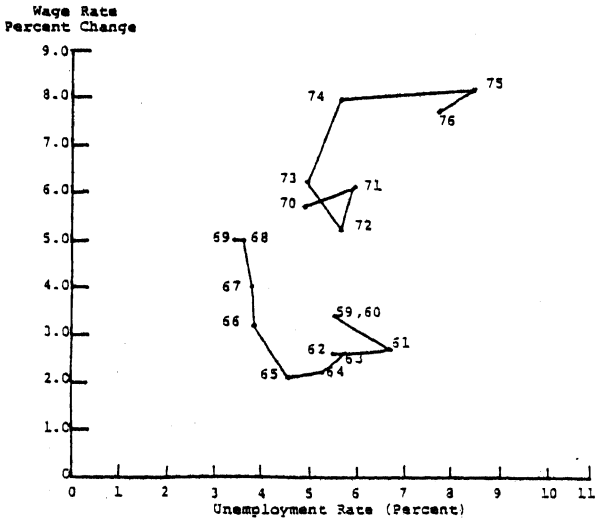


SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.

PANEL A: NONUNION



PANEL B: ALL UNION



as import competition or technological change. Since it is often difficult to judge what pattern is the "traditional" one, a decline in relative position does not necessarily imply the need to "catch-up." Further, with many groups trying to improve their relative shares, some must fail since not all can increase their shares simultaneously.

Union and Nonunion Wage Rates

Historically, union wage settlements have been substantially less sensitive to cyclical changes in unemployment than have nonunion wages. Figure III-2 illustrates this point for manufacturing, where union and nonunion wage increases are available separately. One can see, for example, that when the unemployment rate rose significantly in the last two recessions, nonunion wage gains were reduced, while those of union workers actually increased. The nonunion wage behavior is more consistent with the notion that money wages respond quickly to changing labor markets conditions -- rising faster when the unemployment rate is low than when it is high.

Nonunion (median effective) wage changes are plotted against the unemployment rate in panel A of Figure III-2. It is clear that the traditional view of an inverse relationship between unemployment and wage increases can explain nonunion wage behavior during the 1960s, but the relationship shifts dramatically in the 1970s. Much attention has been focused on this shift. It has been argued by some that the overall unemployment rate does not accurately reflect changing conditions in the labor market. 1/ For example, the increased participation of women and teenagers, who suffer higher than average unemployment rates, causes the overall rate to overstate the slackness in the labor market. While use of a sex-age weighted unemployment rate, or, alternatively, the unemployment rate for prime age males, reduces the magnitude of the shift between the two decades, much remains to be explained.

One other obvious difference between the 1960s and the 1970s was the higher rate of price inflation in the latter period. Thus, it can be argued that wage increases were greater in expectation of higher future price increases.

1/ See George Perry, "Changing Labor Markets and Inflation," BPEA (3:1970) pp. 441-41; and Michael Wachter, "The Changing Cyclical Responsiveness of Wage Inflation," BPEA (1:1976) pp. 115-168.

However, care must be taken to avoid a circular argument since larger average wage increases are typically associated with higher rates of average price increase because they increase costs. It is difficult to isolate the two stages of this circular process from one another.

The same shift of wage behavior is evident in panel B which shows median effective union wage increases in manufacturing. This graph also shows a smaller sensitivity of union wage rate increases to movements in the unemployment rate. In part this is a reflection of multi-year union contracts that set the pattern of wage increases for several years on the basis of expectations of future economic conditions at the time they are signed. Since many wage increases represent the deferred portion of contracts negotiated in prior years, they cannot be as responsive to current unemployment conditions. But, even newly negotiated settlements appear to be less responsive to changes in unemployment.

Major Union Contracts. The limited cyclical sensitivity of major union contract settlements is well illustrated by the pattern of negotiated increases in the last two years. The total compensation increase for six major settlements analyzed by the Council are shown in Table III-2. These include

TABLE III-2: KEY SETTLEMENTS: WAGE AND COMPENSATION CHANGES

	Percent Change in Average Hourly Earnings 1967-1977	Latest Contract Settlement Average Annual Change	
		Wages & COLA	Total Compensation
Private Nonfarm Average	95.5	7.4 a/	3.7 b/
Major Settlements			
Master Freight	115.2	9.7	10.4
Electrical Equipment	92.4	9.9	9.5
Tires	39.7	11.7	9.9
Autos	122.5	8.4	9.8
Steel	139.5	9.1	9.3
Telephone	141.0	7.7	9.5

a/ Average annual change in average hourly earnings December 1975 to December 1977.
b/ Estimated average annual change in hourly wages and salaries and private fringes for the private nonfarm business sector (all employees) 1975:IV to 1977:IV.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics and the Council on Wage and Price Stability.

the most important industrial agreements reached in the current bargaining cycle. The bargaining round got underway with the Master Freight Agreement in the spring of 1976 and continued through the auto settlement in the fall of that year and the steel settlement last spring. The last two major industries negotiating new agreements in this round are coal and railroads (construction is, of course, a major industry, but bargaining is highly decentralized).

The settlements generally provided average annual total compensation gains of 9 to 10 percent. The electrical and tire settlements were weighted more heavily toward wages, while the others showed a greater emphasis on benefits -- especially in autos and telephone communications. Other important industrial agreements such as those in aluminum, aerospace, and longshoring, tended to follow this "pattern" of nine-plus percent average annual gains in total compensation. The six industries shown represent more than 2.5 million workers, or about 25 percent of those in BLS major bargaining units, and the pattern exerts considerable upward pressure on unit labor costs in other industries.

The wage increases shown include estimated cost-of-living adjustments (COLAs) assuming a 6 percent annual inflation rate over the life of the contract. Cost-of-living payments account for a substantial portion of total wage increases in all the industries, but especially in autos and steel, where they will exceed the negotiated fixed increases. Compensation increases in these key settlements have been larger than average over the last two years. In addition, the data reflect the fact that over the last 10 years wages for these larger employee units have risen considerably faster than for the average worker.

Effective Wage Increases

Wage increases for the total union sector are made up of three components -- gains from current settlements, deferred increases from past settlements, and cost-of-living increases. Thus the union wage increase in any period depends on the size of each of these increases and on the number of workers who receive them.

Table III-3 presents the components of the total effective wage change for private nonfarm union workers for 1976 and 1977. The effective wage change in 1977 was smaller than in 1976 in part because first-year wage increases were lower (7.7 percent compared to 8.5 percent). In addition, the number

of workers receiving wage increases was smaller. If the number of workers receiving wage gains in each category were the same in 1977 as in 1976, the 1977 effective wage change would have been at least 3 percent higher.

TABLE III-3: EFFECTIVE WAGE CHANGE - PRIVATE NONFARM INDUSTRIES a/

	1976			1977		
	Percent Increase	Employment	Effective Contribution	Percent Increase	Employment	Effective Contribution
Current Settlement	8.5	3.8	3.2	7.7	3.6	2.9
Prior Year Settlement	6.4	6.8	3.2	6.7	6.6	3.2
Escalator Provision	3.5	4.5	1.6	3.8	4.1	1.6
Total Effective	8.3	9.8 b/	8.1	8.1	9.7 b/	7.8

a/ Settlements with 1,000 or more workers.
b/ Includes 0.3 million workers in 1976 and 0.4 million workers in 1977 who received no wage changes.
SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.

The Relationship to Overall Wage Rates. Data on nonunion wage increases for the private nonfarm economy are not separately available. For a sense of their behavior, however, one can look at the annual change of aggregate wage rates, i.e., the average hourly earnings index. When this is estimated as a function of the unemployment rate (u) and the union effective wage change for the period 1959-76 we find:

$$\%\Delta HEI = \underset{(.52)}{-.38} + \underset{(2.11)*}{6.16\ (1/u)} + \underset{(14.06)*}{.85\ (\%\ \Delta\ \text{union eff.})}$$

$$\bar{R}^2 = .9212 \qquad dw = 2.44$$

(t ratios in parentheses)
* = significant at 0.05 level (or 95 percent)

The equation is based on the premise that nonunion wages are a function of the unemployment rate and union wage increases. 2/ The coefficient of 0.85, then, includes the response of nonunion wages to union wages as well as the share of wage gains going to union workers. The equation indicates a strong link between union wage rates and those for the total economy. But, the added significance of the unemployment rate implies that nonunion increases will fall behind union gains at high levels of unemployment such as have existed in recent years. In future years, as the unemployment rate declines, nonunion increases would be expected to rise relative to those of union workers. This equation predicted a 7.1 percent increase in the total hourly earnings index for 1977. The actual increase was 7.6 percent.

In summary, the income gains of the average worker have been very limited over the last decade. But the average hides a wide dispersion of income changes among individual labor groups. In particular, wage gains within the basic industries that are unionized have outpaced the wage rate increases of other workers. While this disparity can be explained in terms of the differing sensitivity of union and nonunion wages to economic conditions, it will imply upward pressure on the average rate of wage inflation in future years. Furthermore, the poor performance of the average worker's real income can be explained by a slowing of productivity growth and a shorter work week, rather than a decline in labor's share of national income.

Collective Bargaining in 1978

Although 1978 is characterized as a light bargaining year after 1976 and 1977, it is made heavier by the extension of coal and railroad negotiations. The coal contract expired last December 6th, but a prolonged strike pushed a settlement into the first quarter of this year. Railroad negotiations take place under the shadow of the Railway Labor Act, and continue without a strike even though the contract expiration date was December 31st. Thus the number of workers in major bargaining units of 1000 or more (as defined by the Bureau of

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2/ This has been recently challenged in two articles: George Johnson, "The Determination of Wages in the Union and Nonunion Sectors," unpublished paper (May 1975); and Robert Flanagan, "Wage Interdependence in Unionized Labor Markets," BPEA (3:1976) pp. 635-681.

Labor Statistics) will be closer to 2.5 million than the 1.8 million whose contracts actually expire in 1978.

Railway negotiations cover about 450,000 workers who belong to 13 different unions that bargain a national agreement on wages, benefits, and certain work rules with the National Railway Labor Conference (NRLC). The NRLC represents all of the nation's Class I railroads except CONRAIL, which is bargaining separately with the unions. There are two major sets of issues: wage and benefit increases which affect all the unions; work rules which affect only the unions that operate the trains -- the Engineers and, most importantly, the United Transportation Union (UTU), the largest railroad union. Under the provisions of the Railway Labor Act, extended mediation procedures must be exhausted before the unions are free to strike. A group of non-operating unions led by the Brotherhood of Railway and Airline Clerks (BRAC), the second largest railroad union, invoked the mediation procedures after reaching an impasse on wage and benefit issues. The more complex work rule issues involving the UTU and the Engineers are also stalemated. At this point a settlement does not appear likely before the summer, given the timetable under the Railway Labor Act.

The largest number of workers bargaining this year is in the construction industry, where about 660,000 building tradesmen in major units will be negotiating new contracts. Construction settlements have been about 2 percentage points below the average for all industries in recent years, but an expected pickup in commercial and industrial construction could reduce the high rates of unemployment in some local labor markets and increase the size of settlements. (Construction unemployment nationally is 11.5 percent, almost twice the national average, but down from 15.2 percent a year ago.) The continuing growth of open shop competition, however, may keep settlements from rising appreciably. The size of settlements varies considerably from one region to another. About 20 percent of the construction workers negotiating this year are in New York, where unemployment has been very high and recent settlements have been moderate. By contrast, there are important agreements expiring in California, where labor markets are tighter and recent settlements have been high.

The next largest group of workers bargaining in 1978 is in the retail food industry, where negotiations will involve about 175,000 workers -- 60,000 of them under a single agreement in southern California that expires in July.

Retail food workers have been winning above-average increases for the past two years.

Contracts will also expire for about 125,000 workers in the airline industry later this year. Negotiations in construction, retail food, and airlines are decentralized, with individual bargaining going on among various parties in different locations; this contrasts with the centralized national bargaining in railroads and in major industries such as steel and autos that negotiated in 1976 and 1977.

The largest single negotiation in 1978 lies outside the private industrial economy, and involves the U.S. Postal Service's 600,000 workers who are represented by four postal unions. Postal workers' average hourly earnings in October 1977 were $7.44, well above the private nonfarm average of $5.40. Postal wages have increased more rapidly than the average over the past 10 years -- 8.7 percent annually versus 6.9 percent for all private nonfarm workers. The 1975 contract provided fixed wage and cost-of-living increases that will average an estimated 7.3 percent annually by the July expiration date, about two percentage points less than the average for the major industrial settlements analyzed by the Council in the current bargaining round.

While oil refinery and apparel workers will lead off the bargaining in January 1979, the new major bargaining round will begin with negotiations for a new Master Freight Agreement. The employer group that has bargained with the Teamsters in the past national talks has suffered an internal split, and it is not yet clear how bargaining will be conducted. The current contract expires March 31, 1979; it covers about 450,000 workers, but has a strong influence on other local trucking settlements and on retail food agreements -- affecting more than a million workers in all. It is followed in September 1979 by expiration of auto and agricultural implement industries contracts covering about 800,000 members of the United Auto Workers.

Productivity

Trends in labor productivity are important elements of the inflation process. Improvements in output per manhour reduce unit labor costs and provide a wedge between wage

increases and higher prices. Thus, productivity growth is a means of improving living standards for all participants in the economy. In its absence increased incomes for some can come only at the expense of reduced real earnings for others.

A sharp falloff in productivity growth has been an important cause of the disappointingly small gains in real income over the last decade and it has exacerbated the inflation. Since 1967 productivity improvements within the private economy have averaged less than 2 percent annually. 3/ (See Table III-4.) The effect of this slowdown

TABLE III-4: PRODUCTIVITY, CAPITAL AND LABOR GROWTH RATES, SELECTED PERIODS, 1947-67 (Annual Percentage Rates of Change)

	1947-57	1957-67	1967-73	1973-77
Labor Productivity a/	3.3	3.3	2.1	1.3
Private Sector	3.3	3.3	2.1	1.3
Farm Increment	0.8	0.4	0.3	0.1
Private Nonfarm Sector	2.5	2.9	1.8	1.2
(Cyclically Adjusted)	2.6	2.8	2.0	1.7
Capital Stock Measures				
Gross Stock	3.7	3.5	4.3	3.0
Net Stock b/	4.8	4.1	4.3	2.3
Net Stock (excluding environment capital)	4.8	4.1	4.0	1.8
Output c/ e/	3.3	4.3	3.6	2.2
Capital/Labor Ratio d/ e/	4.0	2.7	1.9	1.2
Capital Productivity (O/K) e/	-1.4	0.2	-0.4	0.4
---------- Average Annual Percentage Points ----------				
Employment Shares				
Males, 20 years and over	-	-0.44	-0.46	-0.52
Females, 20 years and over	-	0.31	0.31	0.52
Teenagers	-	0.13	0.15	0.00

a/ All person productivity - output per manhour.
b/ The net capital stock of the private nonfarm sector net of depreciation.
c/ Real output of the nonfarm business sector.
d/ Ratio of the capital stock to employed manhours.
e/ Based on 4th quarter data of each year.

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics and the Department of Commerce, Bureau of the Census.

3/ A measure of productivity is not available for the public sector.

has been to reduce total real incomes by 19 percent in 1977 (the equivalent of $280 billion in today's prices) compared to what would have been achieved by a sustained growth of productivity at the rate of the prior two decades.

A portion of the slowdown can be attributed to trends in agricultural employment and cyclical factors. First, the overall average is no longer benefiting from a shift of employment out of agriculture. In earlier decades the shift of employment out of the farm sector, which had low average labor productivity, contributed a substantial increment to productivity growth within the total private sector. This is seen in the difference in productivity growth between the total private and private nonfarm sectors. The movement of workers out of farming, however, has been largely completed and the net impact on productivity growth has been far less in recent years.

In addition, labor productivity has a very pronounced cyclical behavior as employment is reduced less than proportionately to the fall in output during recessions. The fact that the economy in 1977 is operating at a far lower utilization rate than in 1967 does lead to an overstatement of the longer term implications of the productivity slowdown. Finally, a substantial portion of the decline in productivity growth over the last decade can be traced to a disastrous drop in 1974. Several studies have suggested that this was a one-time effect which may have been related to the sharp change in energy prices. 4/

The adjustment of the productivity growth trend for the shift out of farming and cyclical factors reduces but does not eliminate the apparent slowdown. Productivity growth in the private nonfarm sector is still about one percentage point less in the 1967-1977 period compared to the prior decade. (See Table III-4.) The identification of other specific causes of the shortfall has been more difficult and existing studies have not been conclusive. Several of these explanations, however, can be summarized.

Shifts in the Labor Force

There has been a rapid growth in the labor force over the last decade with significant increased entry into jobs by teenagers and women who have less job training and

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4/ R. Rasche, and J. Tatum, "Energy Resources and Potential GNP," Federal Reserve Bank of St. Louis Review, June 1977, pp. 10-24.

work experience. It is alleged that this change has contributed to slower productivity growth. While an adjustment of the labor force for differing levels of average productivity of various groups does reduce the growth of overall productivity during the last decade, it has a similar effect in earlier years when the share of female teenage employment in the total was also rising rapidly.

The proportion of employment accounted for by women and teenagers has increased by 5.6 percentage points over the last 10 years to 46 percent. But, the proportion rose in the prior decade by 4.4 percentage points when overall productivity growth was higher. Thus, while this demographic trend may have recently reduced the growth of productivity, it appears to be a minor factor in explaining the difference of growth rates between the two periods. Detailed analyses of employment shifts among demographic groups suggest that they cannot account for the sharp dropoff in productivity since 1973. 5/

Shifts in the Mix of Industrial Output

A changing mix of employment between agriculture, nonfarm business and government (where productivity is not easily measured) has been an important contributor to changing rates of productivity growth for the overall economy. But, such an explanation appears to have limited applicability to the shortfall within the private nonfarm business sector. In addition, employment in the farm sector is of minor importance today since it has declined below 5 percent compared to about 20 percent after World War II. A more rapid growth of productivity in the farm sector has also narrowed the difference in the levels so as to reduce the productivity gain of any future employment shifts out of agriculture.

Potentially, shifts of employment among other sectors of the economy (such as manufacturing and services) that have different levels of output per manhour could have effects on the average growth rate of labor productivity of importance equal to that which has been identified for agriculture. Existing studies have concluded, however, that such sectoral shifts have been a minor factor within the private nonfarm

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5/ See Edward Dennison, "The Recent Decline in Labor Productivity," mimeo (Brookings Institution, 1977).

business sector. 6/ Thus, the shift of employment among industries does not appear to account for the recent slowing of productivity growth.

Capital Formation

A steady rise in the capital-labor ratio has been a popular explanation for the secular rise in output per man-hour. But, attempts to measure the quantitative contribution of a growing capital stock to rising productivity have encountered serious difficulties. In part, this reflects problems of constructing accurate estimates of the economy's stock of capital. The value of tangible business capital is not easily quantified because of changes in technology and the extent to which the application of new technology is tied to new capital equipment (embodied in specific capital equipment). Moreover, the measurement of investment in knowledge and education is even more difficult. The effort to determine whether there has been a slowing of capital formation -- even without a firm determination of its importance -- is also confounded by cyclical fluctuations which affect the extent to which capital is utilized. Thus, estimates of the role of capital in explaining productivity growth have varied considerably.

Several studies have tried to address the issue by focusing upon changes in the capital-labor ratio. This approach can be illustrated by factoring labor productivity (O/L) into two components which represent the ratio of capital to labor (K/L) and the average productivity of capital (O/K):

$$\frac{O}{L} = \frac{K}{L} \cdot \frac{O}{K}$$

6/ A study by William Nordhaus found significant effects for the total economy of shifts into government and the finance, insurance and real estate sectors. The latter effect, however, results from inclusion in the National Income Accounts definition of output of an imputation of the rent on owner-occupied housing without a significant element of labor costs. But, both government and owner-occupied housing are excluded from the measure of output used by the Department of Labor for measuring labor productivity. See William D. Nordhaus, "The Recent Productivity Slowdown," BPEA, 1972:3, (Brookings Institution, 1972) pp. 493-536; and J.R. Norsworthy and L.J. Fulco, "Productivity and Costs in the Private Economy, 1975" Monthly Labor Review, (May 1976) p. 11.

Rates of change in the capital-labor ratio are shown for prior decades in Table III-4. The measure of capital includes only the net stock of fixed business capital and excludes investment to meet environmental standards. The measure of labor inputs is total manhours in the private nonfarm sector. Although the presentation does not measure the contribution of capital to productivity in a causal fashion, it does illustrate the substantial rise in capital intensity which has been associated with the secular growth in labor productivity. There is also an indication of a moderation in the growth rate during the most recent decade which corresponds to the slowing of productivity growth.

These comparisons must be interpreted with caution, however, because cyclical variations can greatly alter the comparison. Years with low rates of capacity utilization, such as 1975 and 1977, will raise the estimated capital-labor ratio compared to years of relatively high utilization, such as 1947 and 1967. More elaborate attempts to estimate the change in the capital-labor ratio on a basis which eliminates cyclical fluctation suggest that the growth in the ratio has slowed by about 1.5 percentage points in the last decade compared to an annual average growth of about 2.5 percent in the prior twenty years. 7/

It is important to note, however, that the slower growth in the capital-labor ratio does not translate necessarily into an explanation of why the growth of labor productivity has declined. For example, if labor productivity falls for reasons unrelated to changes in the capital stock, this change would automatically be reflected in a fall in the capital stock and in the capital-labor ratio. In terms of the factoring of labor productivity (O/L) into the product of the capital-ratio labor ratio (K/L) and the average productivity of capital (O/K), a doubling of labor inputs with a fixed amount of capital and output would reduce both labor productivity and the capital-labor ratio by equal proportions; but the identity does not provide a causal link between the decline in the capital-labor ratio and the decline in labor productivity.

7/ Peter Clark, "Capital Formation and the Recent Productivity Slowdown", Paper presented to the American Economic Association, December 30, 1977 (mimeo). Clark also adjusted for shifts in the age-sex composition of the labor force in deriving a measure of the labor output.

An alternative approach is illustrated by statistical studies which try to measure the contribution of both labor and capital to output and in this fashion infer the impact of changes in capital formation on labor productivity. Such studies do indicate that there has been some negative influence from a slightly slower growth of the capital stock but they suggest that a slowdown of capital formation has not been sufficient to account for more than one-fourth to one-half of the shortfall in productivity growth. 8/

Doubts that capital formation alone could be the major explanation for slower productivity growth are reinforced by noting the very modest changes in the growth of capital that occurred prior to the 1974 recession. (See Table III-4.) The overall growth of the capital stock actually accelerated in the 1967-73 period compared to the prior twenty years. It is true that, if environmental outlays are excluded, the stock of capital grew annually at a 4 percent average in 1947-67. But, this was accompanied by a slower growth of output, so that there is an even smaller impact on the capital-output ratio. While capital formation has declined precipitiously since the onset of the recession in 1974, the evidence suggests that a slowing of productivity began well before that period. In addition, the abrupt decline in the cyclically adjusted measures in 1974-75 is difficult to relate to the gradual nature of changes of the capital stock.

Worker Education and Training

The stock of education, training and health embodied in the labor supply has been identified by several studies as a significant source of productivity improvements. The stock of this nontangible wealth and changes in the rate of growth are intertwined with the shifts in the composition of the work force discussed earlier. Estimates of recent growth trends, however, suggest that there has been no slowing of these contributions to productivity growth and that they do not provide an explanation of the productivity shortfall. 9/

Research and Development

Numerous studies have sought to measure the contribution of research and development to expanding productivity. In general, they have concluded that it has been a major source

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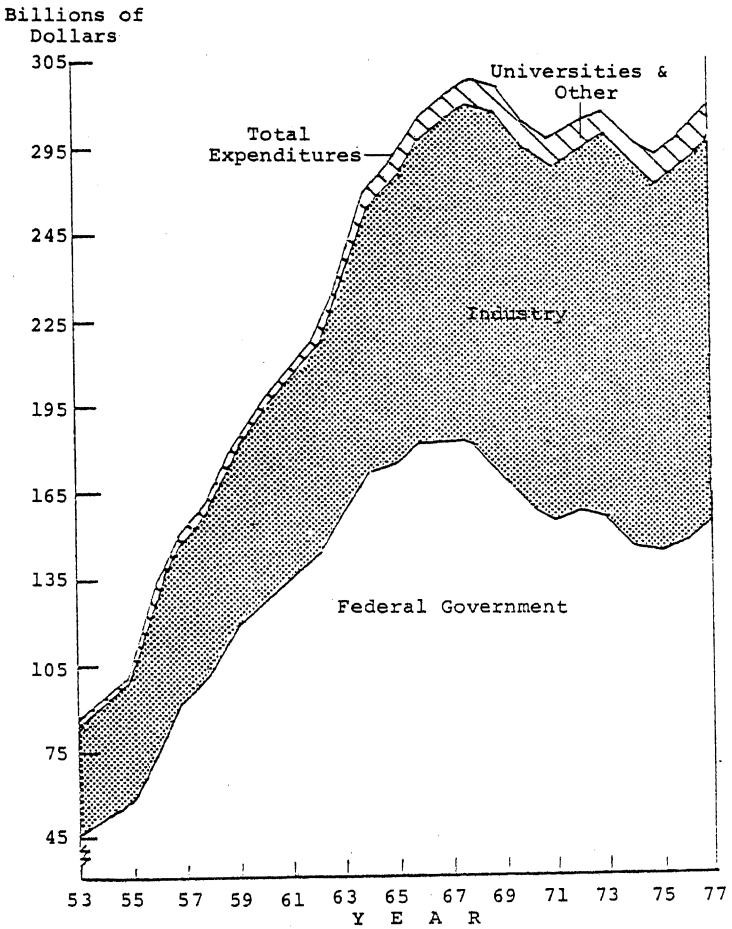
8/ See, for example, Clark, ibid; and John Kendrick, "Total Investment and Productivity Developments, paper presented to the American Economic Association, December 30, 1977 (mimeo).

9/ John Kendrick, ibid.

of growth in labor productivity in this century. Furthermore, the rate of return to society has been far above that of other types of investment. Despite their high rate of return, private expenditures on R&D have been limited because the full return cannot be captured by the investing firm as significant benefits spill over to competing firms and other industries. In addition, these investments have significantly greater risks than other activities. Finally, the full return of R&D expenditures involves long and highly variable lags. All of these factors have been arguments for substantial government involvement in the financing of research and development.

FIGURE III-3: SOURCES OF FUNDS USED FOR RESEARCH AND DEVELOPMENT: 1953-77 (Constant 1972 Dollars a/)



a/ Based on GNP price deflator.

SOURCE: National Science Foundation, National Patterns of R&D Resources, 1953-1977, NSF 77-310.

As shown in Figure III-3, there has been a substantial reduction in the growth of total research and development expenditures since the mid-1960s. After growing at an annual 8.6 percent rate in real terms (adjusted for inflation) between 1953 and 1968, these expenditures have declined in recent years. Federal government expenditures, in particular, have fallen sharply below the levels of the mid-1960s.

The implication of this slowdown in research for productivity growth, however, is extremely difficult to quantify, since there is no reason to expect a particularly close relationship between dollar outlays on such activities and their contribution to output growth. Comparisons of industries with different levels of R&D expenditures and productivity growth have provided some basis for inferring a relationship between the cumulative stock of research and development, but these estimates are highly tentative.

Kendrick estimated that growth in the stock of research and development together with diffusion of new technology contributed about 1.1 percent annually to the growth in productivity during the 1948-66 period. While this is a substantial effect, the slowing in the growth of R&D does not translate into a large decline in the contribution of these factors in subsequent years. In the 1966-73 period he estimates that productivity growth may have slowed by as much as 0.3 percent annually because of lower R&D activity. 10/ An alternative analysis by R. Brinner and S. Chown estimated the contribution of R&D to annual rates of economic growth has steadily declined from 0.6 percentage points in 1955-60 to 0.05 percentage points in the 1970-75 period. 11/

The statistical evidence in support of these estimates requires several heroic assumptions about the lag between the expenditures on R&D and the return on such outlays, and they are highly tentative. Yet, these studies are useful illustrations of the effect of R&D on economic growth and suggestive that R&D trends may be a partial explanation of the shortfall in productivity growth.

Government Regulation

The rapid growth of social regulations designed to achieve goals other than increasing measured production has

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10/ Kendrick, op cit.
11/ Roger Brinner and Sharon Chown, "The Impact of Research and Development on Long-Term Economic Growth", mimeo, Data Resources, Inc., July 15, 1977.

been frequently proposed as a significant contributor to the slowing of productivity growth. These regulations require firms to use capital and labor for protection of the environment or improvements in worker health that would otherwise be used to provide measured output. Such costs could be reflected in the measure of labor productivity because output measures are not, on the whole, adjusted to include improved environment or worker health as a form of production. 12/ The rapid growth of these activities also corresponds with the period of slowing productivity growth.

There are instances in specific industries where these regulations have had substantial negative effects on productivity. In coal mining, for example, productivity actually dropped sharply after passage of the Coal Mine Health and Safety Act of 1969. This decline from an extrapolation of historical trends has been estimated at about 50 percent by 1975. 13/ Lesser declines in productivity are evident in other mining industries.

Efforts have been made by both government and private organizations to measure the magnitude of total business expenditures in the areas of pollution abatement and worker health and safety. A recent preliminary analysis of those cost data suggests that the annual growth in labor productivity may have been reduced by roughly 0.2 percentage points in the 1969-75 period by the expansion of these activities and by as much as 0.4 percentage points in 1973-75. 14/ These estimates include the increased capital requirements as well as increased operating costs and, thus, overlap the previous discussion of the decline in the growth of tangible business capital and its effect on productivity growth. The analysis reflects primarily environmental and mine safety regulations, since few of the costs of complying with the Occupational Health and Safety Act of 1970 were incurred prior to 1975.

12/ There are a few instances such as automobiles where price indexes are adjusted to reflect these types of quality improvements.

13/ J.W. Straton, Mining Congress Journal, July 1977. Other sources citing the effect of the implementation of the Mine Health and Safety Act of 1969 include R.L. Gordon, U.S. Coal and Electric Power and the Ford Foundation's Nuclear Power: Issues and Choices.

14/ E. Dennison, "Effects of Selected Changes in the Institutional and Human Environment Upon Output per Unit of Input," Survey of Current Business, (January 1978) pp. 21-44.

International Comparisons

It is evident that productivity growth is a highly complex process which involves a large number of interrelated factors. It is not explained in a simple fashion by a single factor such as increased capital per worker. The various factors involved are summarized and compared to the experiences of other countries in Table III-5. The comparison of growth rates in output and employment for different industrial countries indicates that there have been wide variations in the growth rate of labor productivity. In part, these differences can be traced to variations in capital formation. But, in addition, significant gains can be traced to improvements in the education, training, and health of workers, economies of scale and specialization associated with expanding markets, advances in knowledge, and improved resource allocation. For example, Japan's annual growth rate exceeded that of the U.S. by 4.8 percentage points in the 1948-71 period (8.81 and 4.0, respectively); yet, only 1.9 percentage points can be traced to more rapid growth of labor and capital inputs. Economies of scale and the adoption of new technology -- technology already being used in the United States -- were equally important contributions to growth.

The complex nature of the factors responsible for growth in labor productivity also explains our inability to state, with precision, the sources of the productivity shortfall within the United States during the last decade. Changes in the labor force mix, the capital stock, research and development, and economic regulation all appear to be contributing factors, but their quantitative impact cannot be stated with precision. In addition, the shortfall in productivity growth was particularly dramatic in 1974 and 1975. Initial explanations that this was a cyclical phenomenon have not been borne out during the expansion of 1976-77 since productivity growth has continued at modest rates. Finally, it is evident that the process is not one that can be quickly or easily altered by government policies. A sustained expansion of overall demand and incentives for capital formation will help, but they are unlikely to provide dramatic improvements. Thus, the slowing of productivity growth will greatly complicate efforts to achieve a decline in the inflation rate from its current plateau.

The Return To Capital

It has been suggested that there is currently a major imbalance in the price-cost relationship, and that the need

TABLE III-5: SOURCES OF GROWTH OF STANDARDIZED GROWTH RATE OF NATIONAL INCOME, WHOLE ECONOMY, BY COUNTRY, VARIOUS PERIODS, 1948-71 (Percentage Points)

Item	*Japan, 1953–71*	*United States, 1948–69*	*Canada, 1950–67*[a]	*Belgium, 1950–62*	*Denmark, 1950–62*	*France, 1950–62*	*West Germany, 1950–62*	*Italy, 1950–62*	*Nether-lands, 1950–62*	*Norway, 1950–62*	*United Kingdom, 1950–62*
Standardized growth rate	8.81	4.00	4.95	3.03	3.63	4.70	6.27	5.60	4.07	3.43	2.38
Total factor input	3.95	2.09[b]	3.02	1.17	1.55	1.24	2.78	1.66	1.91	1.04	1.11
Labor	1.85	1.30	1.85	0.76	0.59	0.45	1.37	0.96	0.87	0.15	0.60
Employment	1.14	1.17	1.82	0.40	0.70	0.08	1.49	0.42	0.78	0.13	0.50
Hours of work	0.21	−0.21	−0.20	−0.15	−0.18	−0.02	−0.27	0.05	−0.16	−0.15	−0.15
Age-sex composition	0.14	−0.10	−0.13	0.08	−0.07	0.10	0.04	0.09	0.01	−0.07	−0.04
Education	0.34	0.41	0.36	0.43	0.14	0.29	0.11	0.40	0.24	0.24	0.29
Unallocated	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Capital	2.10	0.79[b]	1.14	0.41	0.96	0.79	1.41	0.70	1.04	0.89	0.51
Inventories	0.73	0.12	0.10	0.06	0.15	0.19	0.33	0.12	0.22	0.13	0.09
Nonresidential structures and equipment	1.07	0.36	0.87	0.39	0.66	0.56	1.02	0.54	0.66	0.79	0.43
Dwellings	0.30	0.28[b]	0.30	0.02	0.13	0.02	0.14	0.07	0.06	0.04	0.04
International assets	0.00	0.03	−0.12	−0.06	0.02	0.02	−0.08	−0.03	0.10	−0.07	−0.05
Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Output per unit of input, standardized	4.86	1.91[b]	1.96	1.86	2.08	3.46	3.49	3.94	2.16	2.39	1.27
Advances in knowledge and n.e.c.[c]	1.97	1.19	0.66	0.84	0.75[d]	1.51	0.87[d]	1.30[d]	0.75[d]	0.90	0.79
Improved resource allocation	0.95	0.30	0.64	0.51	0.68	0.95	1.01	1.42	0.63	0.92	0.12
Contraction of agricultural inputs	0.64	0.23	0.54	0.20	0.41	0.65	0.77	1.04	0.21	0.54	0.06
Contraction of nonagricultural self-employment	0.30	0.07	0.10	0.15	0.18	0.23	0.14	0.22	0.26	0.23	0.04
Reduction of international trade barriers	0.01	0.00	0.00	0.16	0.09	0.07	0.10	0.16	0.16	0.15	0.02
Economies of scale	1.94	0.42	0.66	0.51	0.65	1.00	1.61	1.22	0.78	0.57	0.36
Measured in U.S. prices	1.06	0.42	0.63	0.40	0.42	0.51	0.70	0.62	0.55	0.45	0.27
Income elasticities	0.88	...	0.03	0.11	0.23	0.49	0.91	0.60	0.23	0.12	0.09

a/ Details may not add to totals because of rounding.
b/ The -0.01 percentage point contribution of the "dwellings occupancy ratio" is included in the contribution of "dwellings" for comparability with other countries.
c/ Not elsewhere classified.
d/ Estimate for 1955-62 period.

SOURCE: Edward F. Denison and William K. Chung, How Japan's Economy Grew So Fast, The Brookings Institution, Washington, D.C., 1976, pp. 42-43.

to restore profit margins from their currently depressed levels will be a significant source of future inflation pressures. It is difficult, of course, to evaluate what constitutes an appropriate level of profits. This section examines the current position of the economy-wide profit rate both relative to historical trends and in the context of the investment decision.

The primary economic concern with the return to capital revolves around the incentives for continued capital formation both to expand industrial capacity and as a contributor to the process of improving productivity and raising average living standards. The gross return to capital -- depreciation plus pretax profit and interest -- represents about one-fourth of income payments within the nonfinancial corporate sector of the economy. But approximately two-thirds of this income flow is accounted for simply by depreciation of existing capital and tax liabilities. Thus, net income payments to capital -- after tax profits plus interest -- are approximately 10 percent of total output. This net after-tax return to capital is often used as a measure of investment opportunities.

The interpretation of historical trends in the after-tax return to capital and the adequacy of the current return as an incentive for capital formation are greatly complicated by changes in tax laws, the effects of inflation, and cyclical variations in economic activity. In addition, alternative measures of the return are frequently put forth in order to provide support for different arguments. Many of these issues can be clarified by focusing upon a common set of financial data for nonfinancial corporations. 15/

Alternative Measures of the Rate of Return on Capital

The return to capital is frequently discussed in terms of the profit share of total output. But, particularly in the comparison among different industries, such a concept fails to reflect wide variations in the amount of capital employed per unit of output. Even at the level of the total economy there have been some secular changes in the capital-output ratio which should effect the profit share. Thus, the net return per unit of capital is a more meaningful concept.

15/ Income data are published by the Department of Commerce in the National Income Accounts and financial balance sheet information is available from the Flow-of-Funds accounts of the Federal Reserve Board of Governors. Estimates of the capital stock are published by the Department of Commerce.

The net return to business capital consists of net interest plus after-tax profits. But profits reported for tax purposes differ from an economic definition in two important respects. First, a significant number of firms continue to use FIFO accounting for inventories. During periods of inflation, reported profits of these firms include a capital gain on inventory -- reported profits of all nonfinancial corporations included $40.4 billion out of a total profit figure of $102.9 billion. Since firms are free to use LIFO accounting if they wish, the major reasons for continued use of FIFO would seem to reflect: (1) tradition, (2) simplicity of accounting for small firms, and (3) a desire to show large reported profits to stockholders.

The second distinction between economic and reported profits results from the treatment of capital depreciation for tax purposes on a historical cost basis. During periods of inflation the amount of income allocated to depreciation is inadequate to replace the capital which was consumed in current production, thus inflating reported profits. In the past the effect of inflation was largely offset by periodic revisions of the tax code to liberalize depreciation allowances and to shorten the definition of useful lives. Until 1974 the tax definition of depreciation exceeded the economic estimates of the national income accounts by several billion dollars, but the difference switched to a shortfall of $12.0 billion in 1975 because of sharp price increases for investment goods.

The net after-tax return on tangible assets (reproducible capital and land at replacement prices) of nonfinancial corporations is shown in column 5 of Table III-6. On this basis the return to capital has averaged 5.2 percent since 1950. There are wide cyclical variations, however, from a peak of 8 percent in 1965-66 to a low of 3.5 percent in 1974. The rate of return rose slightly from 1950 to 1966, but then an eight-year decline began that appears to have reached its low point in 1974. The value of land is the most highly problematic element of this calculation. But, while the elimination of land from the denominator raises the average rate of return, it appears to have little influence on the long-term trends. (See column 6.)

An alternative measure, preferred by some, would be the return to stockholders alone with interest payments being treated as an expense. This approach is not appropriate to the use of the rate of return as a measure of investment incentives since it intermingles the question of the profitability of investment with the issue of how it is to be

TABLE III-6: ALTERNATIVE MEASURES OF THE RATE OF RETURN TO CAPITAL
(Nonfinancial Corporations)

Year	(1) After-tax Profits a/	(2) Net Interest Payments b/ *	(3) Total Assets c/ Reproduceable Capital d/ *	(4) Total Assets c/ Land e/ *	(5) Alternative Measures of the Rate of Return (Percentage) Rate 1 f/	(6) Rate 2 g/	(7) Rate 3 h/	(8) Effective Profits Tax Percent Rate i/
1950	12.7	0.9	195.8	53.8	5.5	6.9	5.7	57.1
1951	12.2	1.1	221.1	57.5	4.8	6.0	5.2	63.5
1952	12.7	1.2	239.6	61.3	4.6	5.8	4.9	58.4
1953	11.4	1.3	250.9	65.3	4.0	5.0	3.9	62.0
1954	13.0	1.6	260.1	69.2	4.4	5.6	4.6	54.7
1955	18.1	1.6	275.8	74.6	5.6	7.1	5.9	52.8
1956	16.0	1.7	304.1	82.4	4.6	5.8	5.0	55.5
1957	15.8	2.2	329.8	89.7	4.3	5.4	4.4	54.7
1958	13.9	2.7	342.4	95.5	3.8	4.8	3.8	53.7
1959	18.9	3.1	351.9	102.0	4.9	6.3	4.7	52.2
1960	18.3	3.5	363.8	107.0	4.6	6.0	4.5	51.2
1961	18.1	3.9	373.7	111.0	4.5	5.9	4.3	51.8
1962	24.2	4.5	385.7	116.8	5.7	7.4	5.6	46.0
1963	27.3	4.8	401.7	123.3	6.1	8.0	6.0	45.5
1964	32.7	5.3	422.1	130.0	6.9	9.0	7.0	42.2
1965	39.0	6.1	452.3	139.1	7.6	10.0	7.8	41.0
1966	41.7	7.4	496.6	149.9	7.6	9.9	8.2	41.4
1967	39.5	8.7	546.9	160.9	6.8	8.8	7.2	41.2
1968	38.5	10.1	599.3	174.3	6.3	8.1	6.8	46.6
1969	33.1	13.1	663.3	189.3	5.4	7.0	5.7	50.1
1970	24.4	17.0	728.9	204.5	4.4	5.7	4.3	52.8
1971	28.8	17.9	786.5	216.4	4.7	5.9	4.4	50.9
1972	38.5	19.1	849.4	233.7	5.3	6.8	5.1	46.5
1973	36.3	23.1	955.4	260.5	4.9	6.2	5.3	52.1
1974	16.8	29.0	1130.2	305.1	3.3	4.1	4.8	71.8
1975	37.5	30.9	1282.4	335.8	4.2	5.3	4.9	52.1
1976	48.3	32.4	1376.8	354.3	4.7	5.9	4.6	52.6

a/ After tax profits plus inventory valuation and capital consumption adjustments.
b/ Net interest payments.
c/ Average of current and preceding year's assets.
d/ Nonresidential plant and equipment, inventories and residential structures of nonfinancial corporations.
e/ Nonfarm, nonfinancial corporation land value.
f/ Rate 1 = Profits After-Tax and Net Interest/Total Assets.
g/ Rate 2 = Profits After-Tax and Net Interest/Reproducible Capital.
h/ Rate 3 = Profits After-Tax and Capital Gains/Total Assets Minus Net Financial Liabilities.
i/ Profit-Tax Accruals/Before-Tax Profits Plus Inventory and Capital Consumption Adjustments
* Billions of Dollars.

SOURCE: Department of Commerce, Board of Governors of the Federal Reserve and the Council on Wage and Price Stability.

financed. In addition, such a measure requires that the exclusion of interest income from the numerator must be matched by a similar adjustment to the denominator. Thus, the appropriate measure of stockholders' net worth becomes tangible capital minus net financial liabilities. We would not expect stockholders' income to reflect a return on the capital supplied by bondholders.

Furthermore, inflation introduces a complication in that the real value of a firm's net monetary liabilities declines, thereby yielding the owners of the firm a windfall gain at the expense of the creditors or bondholders. 16/ (If the inflation is anticipated, of course, the capital loss to bondholders will be offset by high interest receipts.) The essential elements of this redistribution can be captured by multiplying the net liabilities by the rate of inflation, adding this capital gain to stockholders' income, and subtracting it from the incomes of bondholders. 17/ Such a measure of the return to stockholders is shown in column 7. This measure of the return to stockholders shows the same trend as that for total capital. It gradually rises up to 1966 and then declines sharply in subsequent years and appears to reach a trough in 1974. On average, the return to stockholders exceeds that for total capital, but such a result is expected since stockholders bear a disproportionately large share of the risks.

These alternative measures of the return to capital display similar secular and cyclical patterns. Thus, if we are primarily interested in trends in the rate of return rather than its absolute level, it appears that the implicit and most readily calculated index -- the net after-tax return to reproducible capital (fixed capital plus inventories) -- is an adequate measure for the overall economy.

Cyclical Adjustment

It is evident that the rate of return to capital has fluctuated substantially within a range of 4 to 10 percent over the last 20 years. It steadily increased during the first half of the 1960s, but declined to one-half of its peak level between 1966 and 1974. A substantial portion of

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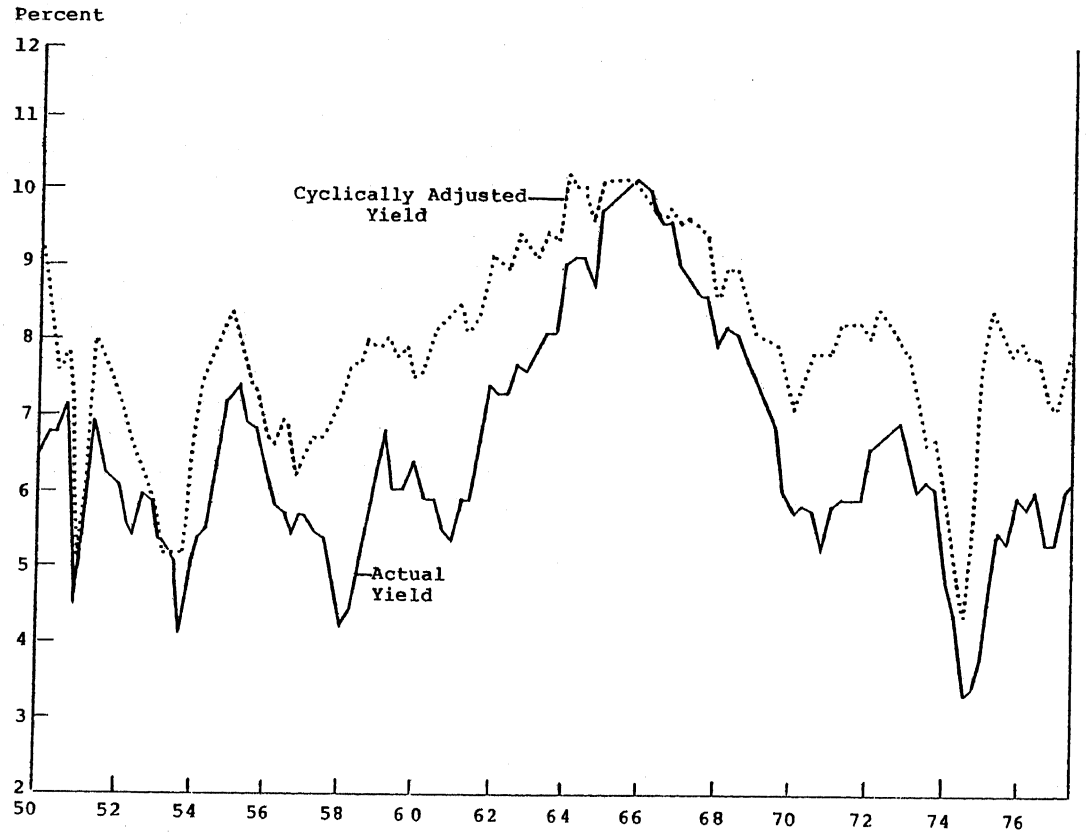
16/ See J. Shoven and J. Bulow, "Inflation Accounting and Nonfinancial Corporate Profits," BPEA 3:1975, pp. 557-612; and BPEA 1:1976, pp. 15-68.
17/ Ibid.

this fluctuation can be explained by cyclical fluctuations in economic activity since during expansions profits grow as fixed costs are spread over a larger volume of output.

The correction for changes in utilization rates, as shown in Figure III-4, substantially reduces the variability in the rate of return, but the broad secular pattern -- rising returns up to 1966 followed by a long period of decline -- remains. 18/

FIGURE III-4: RATE OF RETURN ON REPRODUCIBLE CAPITAL



NOTE: The yield is equal to the sum of corporate profits, adjusted for inventory and capital stock valuations, plus net interest minus tax liabilities divided by the current dollar value of reproducible capital. The yield was adjusted for cyclical variation with the revised FRB measure of capacity utilization. All data are seasonally adjusted.

SOURCE: Council on Wage and Price Stability.

18/ The rate of return on reproducible capital was corrected on a quarterly basis by estimating the following statistical relationship with capacity utilization in the manufacturing sector:

$$\text{Rate of Return} = -0.0809 + .0018 \text{ (capacity utilization)}$$

The coefficient on capacity utilization was used to adjust the rate of return to a basis consistent with a 91.1 percent utilization rate (the rate achieved in 1966). Alternative measures of capacity utilization yield similar results. See Martin Feldstein and Lawrence Summers, "Is the Rate of Profit Falling?" BPEA, 1:1977, (Brookings, 1977) pp. 211-228.

During the late 1960s and the early 1970s, price increases did not fully match the rise in costs, and the return to capital declined. But, since late 1974, price increases have exceeded the rise in other costs and the rate of return has increased to a level similar to that of the early 1960s.

It appears from the figure that much of the current distress over lower rates of return to capital is a reflection of the severity of the 1974-75 recession and the continuing low levels of capacity utilization. In 1976 the actual rate of return was about 5.9 percent compared to the 1965-66 peak of 10 percent. However, a recovery to 1966 levels of capacity utilization would raise the return to 7.7 percent without a change in the basic price-cost relationship.

The Cost of Capital

As an incentive element in the investment decision, the rate of return has relevance only in terms of its relationship to the costs of capital financing. It is difficult, however, to calculate a measure of the cost of capital on a basis which is comparable to that of the rate of return. Such a measure would have to reflect: changes in the relative importance of debt versus equity financing, the adjustment of nominal interest rates for expectations of future inflation rates, and an allowance for changes in investors' perceptions of risk. Most of the available estimates indicate a rather substantial decline in the cost of capital during the 1950s, but very little change over the decade of the 1960s as a whole. 19/ Some of these measures indicate an increase in the cost of capital in recent years brought about by investor perception of increased risk following the recent recession. In any case it appears that there has not been a decline in the cost of capital since the mid-1960s equivalent to the fall in the net after-tax rate of return. As a result there was a reduction in investment incentives that became particularly severe in 1974.

Unless the lags are very long, the decline in the return to capital since 1966 is surprising in view of the lack of any evidence of a concomitant decline in the cost of capital. It does not seem, on the face of it, consistent with notions of an existing or even potential capital shortage. Other things being equal, one would expect the return on capital to rise if it were in short supply. But this has not occurred. Nor can the decline be attributed to price controls alone since it

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19/ See for example, William Nordhaus, "The Falling Share of Profits, BPEA, 1:1974, pp. 169-208.

began before any controls were introduced. The same difficulty is encountered with explanations which emphasize the role of changes in energy prices which meant that some existing capital no longer embodied optimal technology. One explanation for the declining return to capital is that there is a general surplus of capital. 20/ This could be true even though some special industries have a shortage -- the capital shortage is a problem of composition rather than aggregate size. An additional factor is the general overvaluation of the dollar prior to 1971. This artificially held U.S. prices high relative to foreign prices and import competition may have reduced profit margins in some import-competing basic industries. If this explanation is of major importance, the problem should be self-correcting with the move to flexible exchange rates. Finally, the decline in the rate of profit may have been simply a result of business firms' incomplete adjustment to higher rates of inflation since 1965. Because many firms maintained their accounting records on a historical cost basis, the adjustment of prices to higher costs may have lagged behind.

The impact of inflation in raising effective profit tax rates has been identified by many observers as an important factor that contributed to the decline in the return to capital. The effective tax rate on economic profits is shown in the last column of Table III-6. 21/ The effective tax rate drifted downward during the 1960s as a result of a series of government actions to raise investment incentives. During the 1970s, however, the tax rate rose sharply as inflation raised the tax base without a corresponding increase in economic profits. The effective tax rate reached a peak of 71.8 percent in 1974.

Inflation and Inflationary Expectations

Inflation erodes the real value of monetary assets, so that the real yield on investor capital will decline, unless an inflation premium is included. The progressivity of the income tax system compounds this decline in the real yield resulting from inflation. Anticipation of future inflation, therefore, induces potential investors to demand higher interest or dividend income, thus raising the real cost of capital to borrowers.

20/ William Nordhaus, ibid.
21/ The definition of economic profits differs from that of taxable profits in terms of the adjustments for current cost accounting on fixed capital and inventories. The effective tax rate is defined as tax liabilities divided by economic profits.

Inflation also adversely affects the demand for funds by business people for investment purposes. As profits (given nominal depreciation charges) increase faster than the rate of inflation, the tax bite out of those profits will reduce the real rate of return on invested capital. The disincentive effect produced in this way by inflation is compounded by the uncertainty associated with future inflation.

Thus, inflation adversely effects both the demand and the supply of investment funds. But the reduced demand for investment capital moderates the tendency for the cost of capital to rise, with the result that the principal observable effect is a fall in the amount of capital investment undertaken.

Capacity And Inflation

An analysis of past and prospective trends in inflation must also consider the potential inflationary pressure emanating from capacity shortages. At the outset of this discussion it should be noted that there is no universally accepted concept of productive capacity. While some capacity concepts are economic in nature, others are based on technological or engineering theories. Moreover, even if the concept of capacity were unambiguous, there would be problems in measuring the maximum output of many industries. For some, such as primary aluminum or paper, there are reliable physical measures of the maximum output. But, for industries which produce multiple products, it is extremely difficult to quantify or measure capacity. In addition in only a few industries can capacity be considered a rigid limitation on output since additional production can be achieved at progressively higher costs.

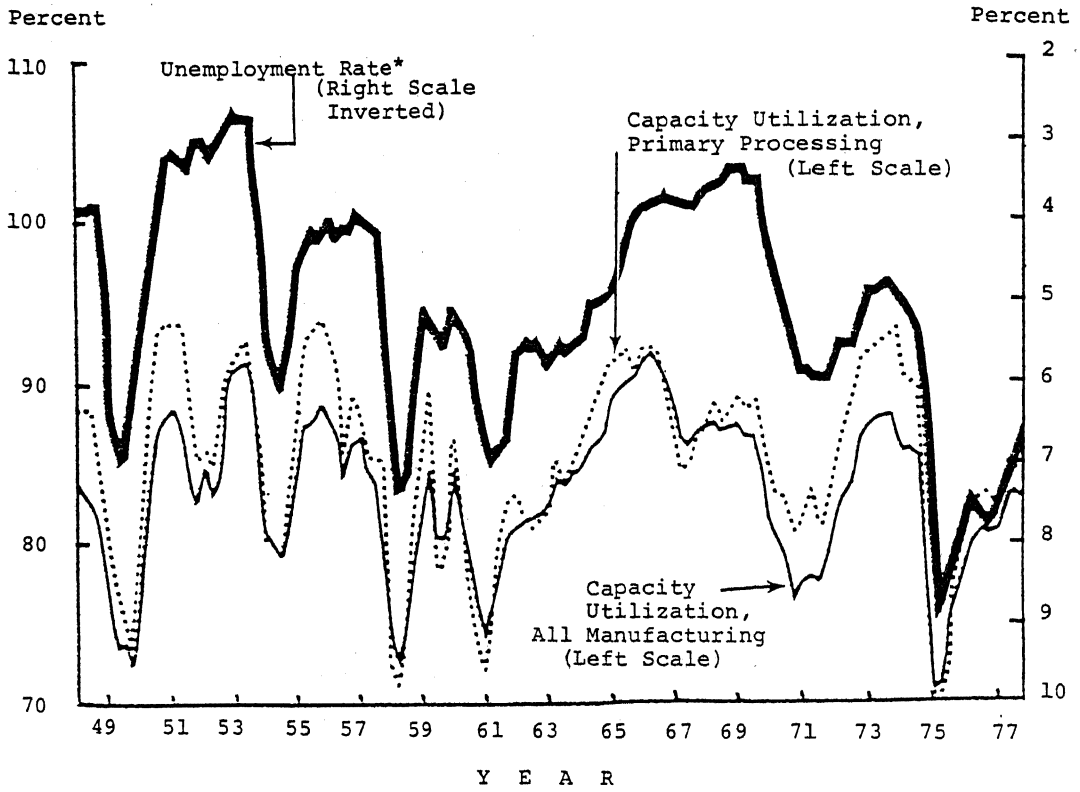
Most estimates of capacity rely on surveys. These surveys are conducted either by the Commerce Department or by McGraw-Hill. The widely-used Federal Reserve Board estimates of capacity utilization are based in part on the McGraw-Hill survey of capacity utilization, estimates of the stock of reproducible capital, and the FRB's Index of Industrial Production. 22/ In some instances estimates of capacity were provided by trade association surveys of capacity utilization.

22/ The methodology for constructing the FRB estimate is explained in Richard D. Raddock and Lawrence R. Forest, "New Estimates of Capacity Utilization: Manufacturing and Materials," Federal Reserve Bulletin, November 1976.

An examination of the Federal Reserve Board's estimates of capacity utilization in manufacturing indicates that the index moved up from its 1961 cyclical trough to a peak in 1966 when capacity utilization exceeded 90 percent. (See Figure III-5.) The utilization rate declined irregularly to the cyclical trough of 1970 and then recovered to the cyclical peak of 1973. This time, however, the utilization rate in manufacturing peaked at 88 percent. Capacity utilization in the manufacturing sector declined sharply during the 1974-75 recession, and has now recovered to the 83 percent level.

While the manufacturing sector did not operate in 1973 at a utilization rate as high as it had experienced in 1966, the situation in the basic materials industry was dramatically different. The 1973 capacity shortages were concentrated in these

FIGURE III-5: CAPACITY UTILIZATION RATES VERSUS THE UNEMPLOYMENT RATE (1948-1977, Quarterly)



* Total rate of unemployment for the civilian labor force.

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics and the Federal Reserve Board.

industries, which operated at more than 92 percent capacity. 23/ (See Figure III-5.) At times, the basic metals industries operated at more than 100 percent of capacity. The utilization rates of these industries also declined during the 1974-75 recession, and have now recovered to nearly 83 percent of utilization.

The history of capacity utilization shows that a capacity shortage existed in 1973 in the basic materials industries. This prospect of shortage will again be a concern in the future as the economy approaches the full-employment zone.

One step in determining whether capacity shortages are likely to appear in the future is to examine several indicators of additions to capacity. A frequently used indicator is the level of real business fixed investment expenditures. Until 1973 the ratio of real BFI to real GNP showed a slight upward trend with strong cyclical fluctuations. (See Figure III-6.) Currently, this ratio is substantially below its 1973 peak.

This ratio, however, may not be a good measure of capacity growth for several reasons. First, it includes pollution control investment expenditures which do not add directly to capacity. Moreover, the mix between investment outlays devoted to expansion versus those intended for replacement can vary over time. The BFI components also include a substantial amount of investment purchases which may not directly increase productive capacity (i.e., commercial structures, office furniture). Finally, by aggregating structures and equipment, the BFI data ignore some significant trends.

The disaggregation of total investment indicates that from the early 1960s to 1971 there was a pronounced upward trend in the share of real GNP devoted to real equipment investment. (See Figure III-6.) While the current share, 6.7 percent, is still below the 1974 peak of 7.3 percent, it is above the 1966 share of 6.5 percent. While these equipment outlays have a most immmediate impact on capacity, there may be some longer run problems.

The sharp decline in the share of GNP devoted to nonresidential structures since 1966 is indicative of less expansion in new plant facilities over the long term. (See Figure III-6.) In addition, expenditures on industrial structures

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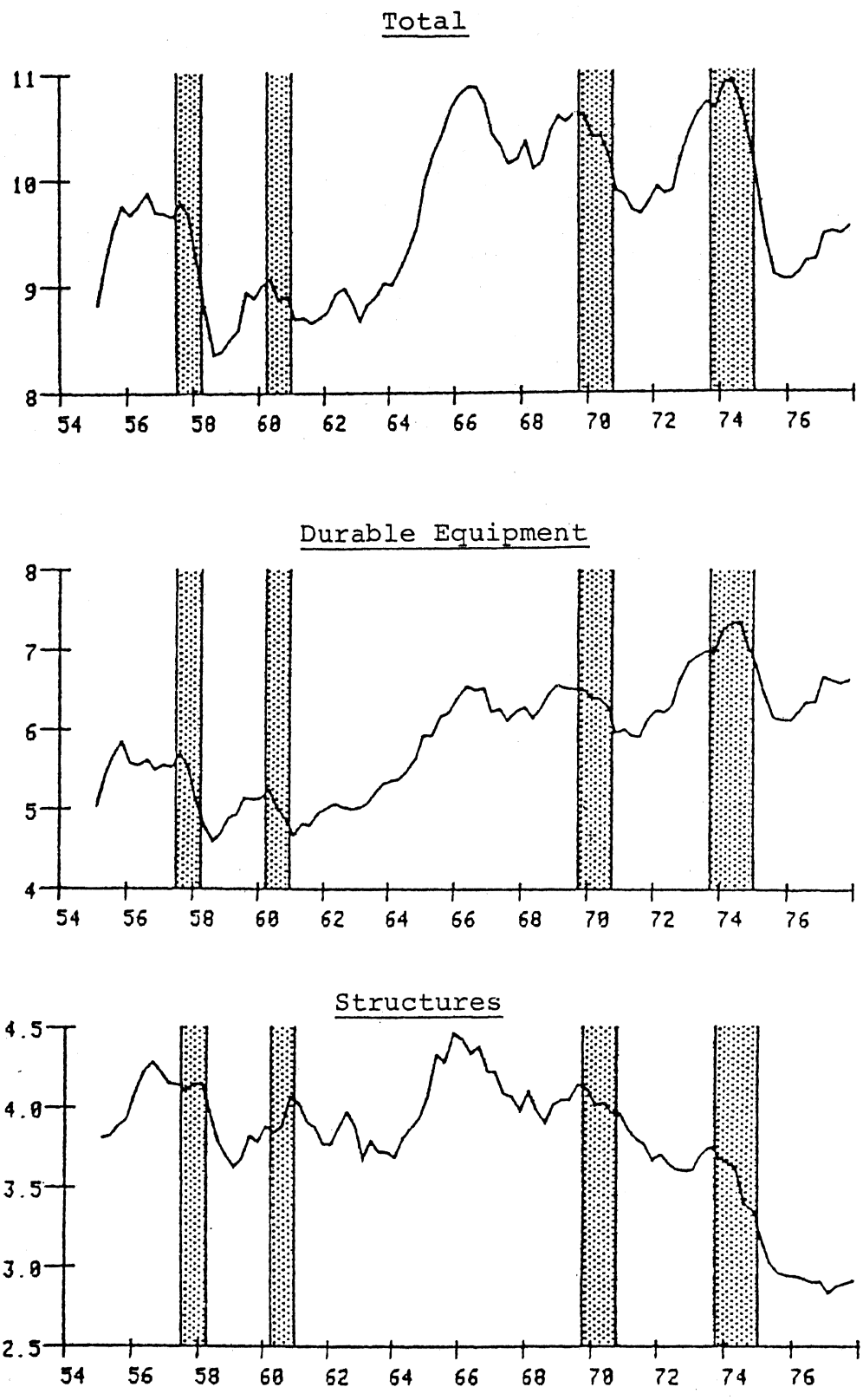
23/ This index begins in 1967 and it is not possible to compare the operating rates at the 1966 and 1973 peaks.

FIGURE III-6: BUSINESS FIXED INVESTMENT AS A PERCENT OF REAL GNP



NOTE: Shaded areas represent periods of recession.
SOURCE: Council on Wage and Price Stability.

which are the most relevant to new productive facilities have also declined secularly since the 1966 peak.

The pattern of investment expenditures within manufacturing is similar to that found in the overall economy. While investment as a share of value-added rose in the early 1960s, there is little evidence of a continued upward trend since 1966. Moreover, the 1973 peak in the ratio of real investment to real value added in the manufacturing sector was below that of 1966. Investment in environmental capital currently accounts for about 9 percent of total investment outlays for manufacturing. When this environmental investment is removed from the total manufacturing capital expenditures, the data show a substantial secular decline in the investment rate since 1966.

Consequently, the amount of investment expenditures may not be an entirely accurate measure of the growth of capacity, as a significant amount of the capital outlays may be devoted to non-capacity producing environmental equipment. This notion is corroborated by another study which shows that the relationship between the growth of capacity and capital in manufacturing changed in the 1970s. 24/ For the 1954-1969 period, capacity grew at a faster rate than capital, but in the 1970s the growth in capital productivity decelerated substantially.

These findings suggest that even though current capacity utilization rates for total manufacturing are still cyclically depressed, an economic growth path designed to reduce unemployment significantly in future years may encounter some capacity limitations. This finding is further substantiated by a historical comparison of unemployment rates with capacity utilization levels. (See Figure III-5.) There seems to be a larger imbalance between available capital and labor. Unemployment today is 1.5 to 2 percent higher than in previous periods of comparable industrial capacity utilization rates. This imbalance is partially due to the extremely rapid growth in the labor force in the past decade, which has not been matched by a comparable acceleration in the growth of the capital stock.

Despite the relatively slow growth of the capital stock (and capacity which has grown only 11 percent since the end of 1973), the severity of the 1974-75 recession, with concomitant declines in capacity utilization, has postponed the possibility of an overall capital shortage in the near future.

24/ Raddock and Forest, op cit.

Moreover, there is worldwide excess capacity in many basic industries. This surplus could provide a significant increment to our supplies in some areas should the need arise.

If capacity shortages should appear, they would not be uniform across industries. Through 1980, the capacity of most major industries is likely to be adequate to meet demand, projected on the basis of a 5 percent unemployment rate in that year. It is clear, however, that selected industries will experience tight markets or shortages as the unemployment rate approaches 5 percent in 1980. In those industries, the capacity now in place plus the projected increases in capacity from plants under construction (given the long construction lead times) will probably be inadequate to meet the 1980 demands.

The aluminum industry is a likely candidate for capacity pressures in the near future. The industry is currently operating near a 90 percent capacity utilization rate, and the outlook is for growing market tightness between now and 1980. The aluminum industry recovered quickly from the past recession, and the pace of recovery may be sustained or even heightened by developments such as the greater use of aluminum in the manufacturing of automobiles. At the same time, problems involving the availability and price of energy supplies, rising labor and capital costs, EPA regulations, and bauxite levies may impede the expansion of supply. At present, despite a generally optimistic demand outlook, there is virtually no expansion of capacity underway in the domestic economy.

The growing inability of the primary aluminum industry to meet demand will place rising pressure on the other two sources of supply -- secondary metal (the aluminum scrap industry) and imports. But by 1980 the ability of these sources of supply to fill the widening gap is likely to be severely strained, particularly under a relatively optimistic demand forecast.

The sharp recovery of housing starts in 1977 places pressures on the capacity of a number of building material industries -- including lumber, insulation, and gypsum products. This produced an upward pressure on these prices in 1977. An expected leveling out of demand for housing in 1978 should temporarily moderate the price inflation in these supplying industries, but sharp cyclical fluctuations in housing activity have generated repetitive cycles of capacity imbalance in these industries. Moreover, in the lumber industry, there has been a secular upward trend in prices that transcends the sharp cyclical fluctuations.

Large swings in lumber prices are the rule rather than the exception, since supply cannot rapidly adjust in the short run. These swings could be somewhat alleviated, however, if more effective efforts were made to moderate the severe cyclical fluctuations in housing and consequently the demand for wood products.

The demand for housing -- and therefore lumber -- is expected to rise substantially over the next few years due in large part to demographic trends. An increase in the supply of lumber could moderate the pressure on lumber prices. However, there is little prospect of a substantial increase in timber supplies from private sources over the next several years. Within existing policy constraints, some increases in the harvest from public lands could occur. However, a greater increase in these supplies would require either a substantial intensification of management practices to increase future yields or a significant alteration of public land use policies.

In contrast to these industries where capacity pressures are viewed as quite likely, the world steel industry is currently characterized by considerable slack capacity. The United States, Western Europe, and Japan, which together account for approximately 80 percent of total free world steel production, are plagued by problems related to excess capacity. One manifestation of this situation is the 33 percent increase in U.S. steel product imports that occurred between 1976 and 1977, as foreign producers sought to maintain production and employment levels in the face of sagging home demand by further penetration of the U.S. market.

As noted in the Council on Wage and Price Stability's study of October 1977, Prices and Costs in the United States Steel Industry, several studies including the Council's have attempted to forecast steel demand and supply through 1980. The consensus of these projections is that worldwide demand for steel will fall short of supply through 1980. This excess supply situation, resulting largely from the severity of the recent recession and the sporadic and sluggish recovery in industrialized nations, will continue to create pressures and incentives for nations to increase exports. At the same time, there will probably be further retirement of capacity.

Other basic materials which are currently experiencing slack capacity utilization include copper and cement. In the latter industry there are particular regions of the country where markets are tight and prices firm. But in most areas there is no current or imminent capacity pressure.

Finally, there are a number of industries where the outlook is mixed or uncertain; these industries pose no immediate threat to price stability, but on the basis of experience during the 1973-74 period and current demand projections, they appear vulnerable to inadequate capacity over the next two to three years. Examples of this situation include the paper, plastics, and electric utility industries. The latter industry presents a particularly difficult case with respect to anticipating the likelihood of supply shortfalls. The extremely long lead time associated with the construction of new facilities necessitates a longer term perspective for an analysis of the adequacy of capacity. Currently, rough estimates of the ability of this industry to meet projected demand through 1985 indicate that if demand follows recent trends, a significant rise in capital expenditures will be necessary in order to maintain adequate reserve margins.

Policies Toward Aggregate Demand

Despite a continuing dispute with respect to their relative strengths, there is little question today that fiscal and monetary policies are powerful tools for altering the level of aggregate demand. 25/ Massive increases in spending during World War II demonstrated their ability to lift an economy out of a deep depression. Fiscal stimulus and accommodative monetary policies combined during the 1960s to sustain a long economic expansion that ultimately led to upward pressures on prices. The recessions of the early and mid-1970s, on the other hand, illustrated the power of restrictive policies to push the economy in the opposite direction.

Yet, despite the active use of these policies, control of inflation and unemployment has proved more difficult than

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25/ An increase in government expenditures can be financed by taxes, by the creation of additional government debt, and/or by increases in the money supply. Standard analysis (which is not universally accepted) suggests that an increase in government expenditures financed by an increase in taxes is less expansionary than an increase in expenditures financed either by additional government borrowing or by additions to the money supply. Government expenditures which are financed by the creation of additions to the stock of money (which occurs when the central bank purchases additional government debt) are generally considered to be the most expansionary. In many instances, pressures for monetary expansion accompany fiscal deficits.

was previously believed. There are several reasons for this. First, although there has been improvement in the art of economic forecasting, misjudgments and unforeseen events have frequently resulted in poorly timed adjustment of these policies. Second, the lags between the change in policy and its impact on the economy have been longer and more variable than anticipated. Third, it has been difficult to reconcile the economic need for prompt adjustments in fiscal policy with the political considerations which surround such decisions. Fourth, despite early claims to the contrary, monetary policy has not proved to be neutral and evenhanded in its impact on components of aggregate demand. In the shortrun, the impact is concentrated on residential construction. Although there is an effect on business investment, the lags extend the expenditure impacts beyond the period for which forecasters can reasonably be expected to anticipate the need for stimulus or restraint.

But, the most fundamental difficulty with these policies has not been the linkage between policy changes and changes in the level of aggregate demand. Rather, the larger problem has been that changes in aggregate demand have had smaller impacts on inflation than were expected, and that the lags also have been far longer than anticipated.

In addition, earlier beliefs that low levels of unemployment could be achieved at acceptable rates of inflation, without substantial changes in the institutional structure of the economy, have been severely shaken. Various developments are viewed as contributing to a worsening tradeoff between unemployment and inflation. Many of those factors were discussed in previous chapters.

Today, the impact of alternative demand policies on inflation is a highly controversial question. At the one extreme is the view that an expansionary policy can both reduce unemployment and inflation. The proposition is based on the argument that, in the short run, overhead costs decline with rising output and gains in productivity will offset a larger portion of wage increases. There is substantial truth in both of these propositions for shortrun changes in demand at times of substantial economic slack. But, over longer periods of time, the historical record shows that increases in aggregate demand eventually add to inflationary pressures. The lags appear to be long and the precise magnitude of the effect varies at different levels of resource utilization.

At the other extreme is the view that control of aggregate demand is essential to achieve both reasonable price

stability and full employment in the long run. The argument is that inflationary expectations can only be restrained by keeping alive the fears of recession. Thus, adherence to price stability must be given precedence, despite its short-term consequences for unemployment and growth. Such a policy has been criticized on the grounds that the length of the lags involved makes the societal costs of such an approach prohibitive. In addition, it would appear that, even were such a policy to succeed, the inflationary pressures would only re-emerge during the recovery.

In practice, it would seem that fiscal and monetary policies must operate in a range far short of either of these two extremes; but, in fact, the tendency has been to ignore the lags and fluctuate from one extreme to the other. The result has been neither a satisfactory performance of inflation nor unemployment. Both fiscal and monetary policies, which were relatively expansionary in the 1967-68 period, became much more restrictive in 1969. The Federal government ran a surplus of about $3 billion dollars in FY 1969, as compared with a deficit of $25 billion in FY 1968. Also, the M_2 definition of the money supply grew at an annual rate of 2.5 percent in 1969 as compared with over 9 percent in the prior two years. At least partially as a result of these changes, real GNP in 1970 declined for the first time in over ten years. In addition, the decline in real GNP in 1974 can be associated with declines from the high rates of monetary growth and relatively large deficits of the preceding several years, particularly 1971 and 1972. Changes in the amount rather than absolute levels of fiscal and monetary stimulus have a significant impact on the level of economic activity. Even though the rate of monetary growth during 1973 and 1974 was high relative to earlier (pre-1965) periods, it was low relative to the 1971-72 period, and thus had a contractionary impact.

The post-1965 period has been one in which, on average, fiscal and monetary policy both have been expansionary by normal measures. As shown in Table III-7, the actual and high-employment Federal budget deficits suggest that fiscal policy has been expansionary. Similarly, monetary policy, as measured by rates of growth in the monetary aggregate, has been expansionary. However, there are several problems of interpretation with some of these measures.

The use of the high-employment budget balance as a measure of fiscal stimulus was based on the assumption of a stable pattern of savings in the rest of the economy. But in two important respects these saving patterns have changed relative to

TABLE III-7: FEDERAL BUDGET SURPLUS (Billions of Dollars) (Annual Averages)

Fiscal Year	Actual	Percent of GNP	High Employment Surplus	Percent of Potential GNP	Annual Average of Percent Change in Monetary Aggregates	
					M1 a/	M2 b/
1960-64	-4.2	0.8	9.4	1.7	2.0	4.7
1965-69	-7.2	0.9	-4.7	1.0	5.5	8.1
1970-74	-13.8	1.2	-4.4	0.6	6.2	8.9
1975-77	-52.2	3.2	-18.0	1.0	5.4	9.1

a/ M1 equals demand deposits plus currency.
b/ M2 equals M1 plus time deposits at commercial banks.

SOURCES: Board of Governors of the Federal Reserve System, Federal Reserve Bank of St. Louis, Council of Economic Advisors, and The Budget of the United States Government, Fiscal Year 1979.

the past. First, state and local governments are currently showing a total budget surplus of $30-35 billion. When the Federal government last showed a budget surplus, in 1969, the state and local government surplus was only $2.1 billion. Second, the foreign sector is also currently showing a savings surplus of $20 billion.

Historically its net position has fluctuated in a narrow band about zero. In past years, it was assumed that private investment (business investment and residential construction) would roughly equal private saving (household and corporation) during expansionary periods. Today, that continues to be roughly true. But, the absorption through investment of private savings plus the surplus of state and local governments and that of the foreign sector would require an unprecedentedly high level of private sector spending. Thus, much of the Federal deficit can be explained by the need to offset the

abnormally high surplus position of state and local governments and the foreign sector.

Averate rates of growth in the monetary aggregates have not been consistent with noninflationary growth. Lower rates of growth in the monetary aggregates and smaller Federal budget deficits could be achieved. But such a change in policy would be highly costly in terms of unemployment and reduced output. This is the dilemma which confounds efforts to reduce inflation by means of fiscal and monetary policy restraint.

CHAPTER IV

SPECIAL INFLATION PROBLEMS

The causes of inflation are many, and some are best viewed from an aggregate perspective. Although it is important to maintain such an overview, the approach can mask the diversity of specific problems. This chapter deals with individual sectors of the economy that are especially troublesome: food, energy, medical care, housing, and government activities. Each of these sectors has peculiar institutional characteristics that distinguish it from the rest of the economy.

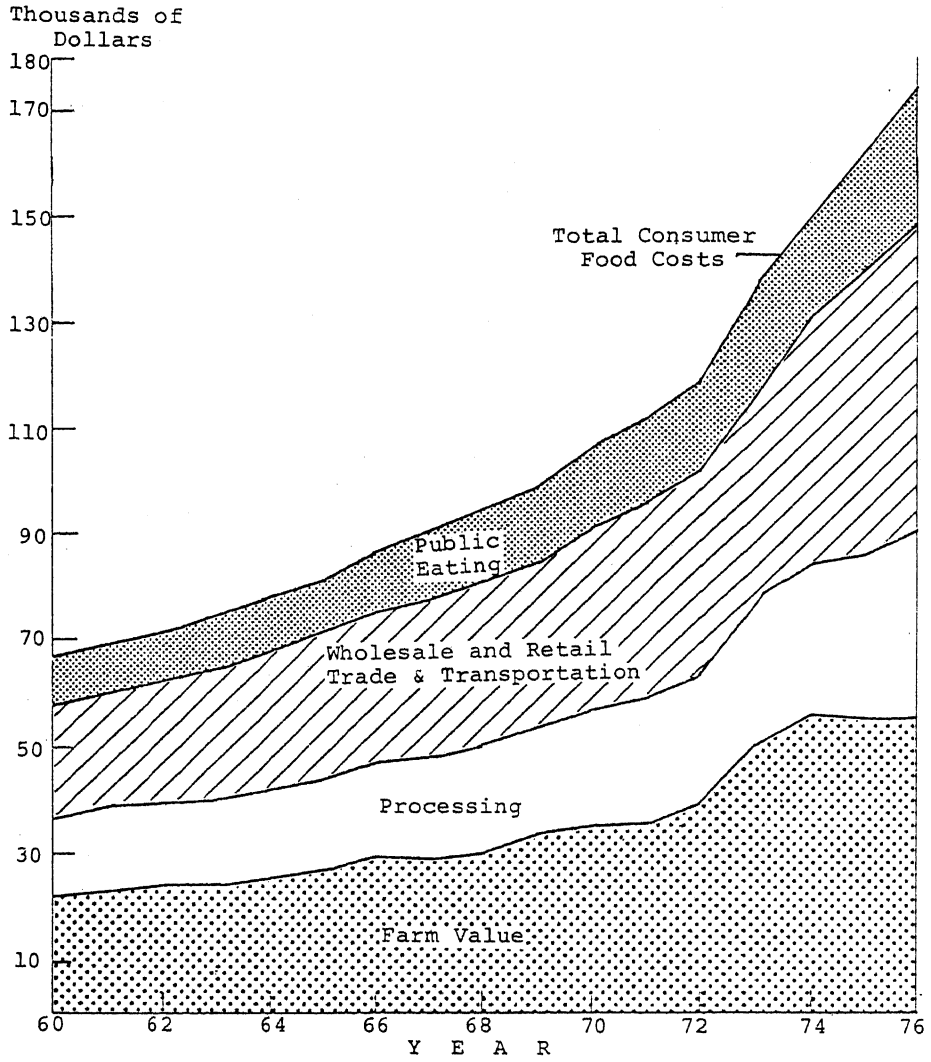
Food Prices

Food price changes occupy a central role in the public's perception of inflation trends. They represent a large proportion of the consumer's budget -- particularly of basic necessities. But, in addition, food price changes are highly visible since consumers are keenly aware of the prices of goods for which they shop on a daily or weekly basis. The prices for individual food items are also highly volatile and are more likely to attract attention than the gradual upward price changes of nonfood products. At the same time, the causes of food price changes are not well understood. The chain of processing and distribution from the level of the individual farm to the grocery store is long, and the identification of specific sources of higher prices is frequently difficult.

Distribution of Food Production Costs

The distribution of consumer expenditures on domestically produced farm foods is shown in Figure IV-1. Contrary to widely held opinions, there is little evidence of a decline in the farmer's share of total food expenditures. The farm share rose to a peak of 38 percent in the 1973-74 period of sharply rising food prices, but recently it has returned to the 30 to 35 percent that was typical of the 1960s. Processing costs represent about 19 percent of total expenditures and their share has declined slightly over time. Wholesaling and retailing costs are about 28 percent of the total budget and their share has changed little over the last decade. The remainder of the budget is accounted for by dining out (15 percent) and transportation (6 percent).

FIGURE IV-1: COMPONENTS OF CONSUMER EXPENDITURES ON DOMESTICALLY-PRODUCED FARM FOOD



SOURCE: U.S. Department of Agriculture.

Sources of Food Price Increases

Over the last ten years consumer food prices have increased more rapidly than prices for other consumer products, but within the decade there were wide variations in the year-to-year changes. In the years prior to the onset of the 1973-74 shortages, food price increases evenly matched the rate of rise for overall consumer prices. (See Table IV-1.) Prices for food away from home moved upward somewhat faster as a reflection of the small weight of food

TABLE IV-1: COMPONENTS OF CONSUMER FOOD PRICES, 1967-77 (Annual Rates of Change[a/])

	Relative Importance (Percent)	1967-77	1967-72	Annual Rates of Change 1973	1974	1975	1976	1977	1st Half	2nd Half
Consumer Price Index										
All Items	100.0	5.8	4.6	8.8	12.2	7.0	4.8	6.8	9.0	4.4
Food	23.7	6.8	4.5	20.1	12.2	7.5	0.8	8.0	13.6	2.7
Away from Home	5.2	7.3	5.5	12.7	11.2	7.4	6.1	8.0	11.7	4.4
At Home	18.5	6.7	4.3	22.1	12.4	6.2	-0.9	8.0	14.3	2.1
Domestically Produced Farm Food [b/]										
Retail Value	15.8	6.1	4.3	23.3	9.9	6.6	-3.2	5.1	7.4	2.8
Farm Value	6.1	6.2	6.0	30.9	2.7	7.6	-11.1	6.4	9.2	3.6
Farm-Retail Margin	9.7	6.0	3.1	17.9	15.6	5.8	2.3	4.3	6.4	2.2
Imported Food	2.7	11.1	5.3	9.9	33.7	4.1	15.9	25.7	61.8	-2.3
Components of Farm Value [c/]	(1976 share) 100.0									
Meat and Poultry	44.5	6.3	7.1	30.2	-6.8	23.7	-23.6	13.8	27.8	1.3
Eggs and Dairy Products	30.4	6.4	3.9	38.4	-3.1	12.3	5.2	-2.8	-9.4	4.4
Fruits and Vegetables	14.4	6.1	4.3	11.8	21.0	2.4	3.6	2.3	3.9	0.7
Bakery and Cereal Products	5.5	3.8	5.2	66.4	25.6	-31.4	-24.9	5.1	0.8	9.7
Other Items	5.2	9.2	1.9	97.6	89.6	-47.9	-1.9	14.6	51.6	-13.4

a/ Changes are measured from December to December.
b/ Refers only to the food at home component of the CPI and includes imported food items. Farm value is constructed by applying CPI weights to inputs at farm level.
c/ Changes are measured from fourth quarter to fourth quarter and reflects proportionate weights of household purchases in 1960-61.

SOURCE: Department of Labor and Department of Agriculture.

commodities and the high proportion of total costs that are attributable to labor. Prices of domestically produced farm products (excluding imports) rose more rapidly at the farm level than at retail, although the slower growth of marketing margins may have been a reflection of the restrictive influence of the price freeze of 1971 and the subsequent Phase II controls. 1/ In 1973 the farm value of food products shot up by nearly a third and marketing margins recovered most of the shortfall from the earlier period. The result was a 23 percent rise in prices for domestic food consumed at home. The rate of price increase at the farm level slowed sharply in 1974, but the energy crisis and accelerating wage inflation continued to push marketing margins up at a rapid rate. Large price increases for imported food items -- principally sugar -- also maintained the rise in overall food prices substantially above that for domestically produced farm foods (12.2 versus 9.9 percent). Food prices fell sharply at the farm level during 1976; but a rise in marketing costs and higher imported food prices -- particularly for coffee and other beverages -- moderated the extent of the decline at the retail level.

The importance of imported food items is also evident in the sharp swing in food prices between the first and last half of 1977. In the first six months the inflation of total food prices returned to double-digit levels, while the prices of domestically produced food rose by a more modest 7.4 percent at annual rates. Imported food price increases accounted for over half of the 14.3 percent rise in prices for food consumed at home. In the last half of the year, imported food prices declined and prices of domestically produced food rose at an annual rate of only 2.8 percent.

For the entire 10-year period, 1967 to 1977, food price increases exceeded the overall inflation rate by about 1 percent annually. Retail prices of imported foods rose substantially more than prices of domestically produced farm products -- 11.1 versus 6.2 percent annually. For domestically produced products, retail and farm prices rose by matching amounts and the farm share of total costs is the same as in 1967.

Marketing Margins. Over the last decade, marketing costs -- which account for about two-thirds of the budget for domestically produced food -- have risen in line with the rate of inflation in the overall private nonfarm

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1/ The index of farm value shown in Table IV-1 is computed by applying the same weights used in constructing the Consumer Price Index at the retail level to the farm value of individual items that go into the consumer market basket. Differences between retail and farm values can then be traced to changes in marketing costs.

economy. (See Table IV-2.) Labor costs account for about 47 percent of the total marketing bill; and, because unit labor costs rose more rapidly than other components, they accounted for slightly more than half of the rise in all costs. The rise in hourly employment costs, at an annual rate of 7.1 percent, slightly exceeded the average of the overall economy. And, the pressures on food prices were intensified by a very slow growth of labor productivity within the food marketing industry -- less than 1 percent annually.

Capital costs are the second largest component at 15 percent of the marketing bill, and they also rose more rapidly than the average of other components. Among the elements of capital costs, the growth of profits is somewhat overstated and that of depreciation understated because of the use of historical costs in computing depreciation for tax purposes. The sharp rise in interest costs reflects both the large increase in interest rates over the decade and an increased reliance on debt financing. The rise in the costs of packaging materials and transportation has been particularly large in recent years as a result of higher prices for petroleum, paper products and metal and glass containers. Other cost components have had rates of inflation equal to or below the average for all marketing costs.

Food marketing costs during the next few years should continue to rise in line with the general inflation rate. The relative importance of individual cost components, such as labor, capital, and transportation, is not dissimilar to that for other sectors of the economy. The food marketing industry has absorbed a constant share of total food expenditures over the last decade and there is little reason to expect this pattern to change in the future. The industry does have a continuing problem, however, of relatively low rates of growth in labor productivity that exacerbates the inflationary trend of food prices.

Farm Value. The volatility of consumer food prices can be traced largely to sharp variations in the value at the farm level. Average rates of price change for all farm products at the wholesale level, however, often fail to reflect accurately changes in the farm price of items purchased by consumers. For example, grains account for 16 percent of the total weight in the Wholesale Price Index for farm products; yet 50 percent of all grains are used domestically to feed livestock and, in recent years, about 35 percent has gone into the export market. The farm value index of Table IV-1 avoids these difficulties by focusing upon the specific mix of farm products consumed at the

TABLE IV-2: RATES OF UNIT COST INCREASE FOR COMPONENTS OF THE FOOD MARKETING BILL, 1966-1976

	1976 Expenditures (billions of dollars)	Unit Costs - 1966-76		
		Percentage Change	Contribution to Total Change a/	Annual Rate of Increa
Private Nonfarm Sector	--	70.3	--	5.5
Food Marketing Bill b/	116.0	70.2	70.2	5.6
Labor c/	54.3	84.9	36.6	6.3
Capital	17.5	88.1	12.0	6.5
Profits Before Tax	8.3	104.6	6.2	7.4
Depreciation	3.9	48.7	1.9	4.0
Rent	3.6	67.6	2.1	5.3
Interest	1.7	258.5	1.8	13.6
Packaging Materials	15.0	82.1	9.9	5.2
Rail and Truck Transportation	9.5	89.6	6.6	6.6
Business Taxes	4.6	75.7	2.9	5.8
Advertising	3.3	37.9	1.3	3.3
Repairs, Bad Debts, Contributions	2.4	83.2	1.6	6.2
Other	9.5	-5.2	-0.7	-0.5
Addenda:				
Hourly Employment Costs	--	98.0	--	7.1
Labor Productivity	--	7.1	--	0.7
Unit Labor Costs	--	85.0	--	6.3

a/ Contribution to total price change equals percentage changes in unit costs of component multiplied by its share of total costs in 196 Sum of individual components equals the total change of 70.2 percent. Unit costs are current dollar outlays divided by constant-dollar volu of food output.

b/ The coverage of the marketing bill data differs from that of the farm-retail price index in that it includes food consumed away from home and food consumed in institutions.

c/ Excludes employment taxes which are included as part of business taxes.

SOURCE: Department of Labor and Council on Wage and Price Stability.

retail level -- avoiding the double-counting of intermediary products such as feed grains. Price changes also affect different groups within the farm sector quite differently. Higher grain prices improved the income of grain producers in 1972-74, but they sharply increased the costs and reduced the incomes of producers of livestock and livestock products. Fruit and vegetable growers comprise a third group which is only slightly affected by developments within the rest of the farm sector.

Meat Prices

The sharp changes in meat and poultry prices in recent years can be traced directly to variations in the quantities supplied to the market. The initiation of sharply higher meat prices in 1973 followed a sharp decline in meat marketings of 7.4 percent between 1971 and 1973 compared to the trend growth of 3.5 percent per year over the prior decade -- a cumulative shortfall from trend of 10 to 15 percent. The freeze on prices in mid 1973 also led some producers to hold back on supply in anticipation of its end. The surge in supply after the termination of the freeze contributed to the sharp break in meat prices in early 1974. In addition, the enormous rise in feed grain prices also sharply increased the price required for fed cattle in order to break even on feedlot operations. But, these higher prices reduced consumer demand for meat products and placed sharp downward pressure on the prices that feedlots paid for feeder cattle.

The reduced profitability of cattle herds in response to high feed grain prices and consumer resistance to higher meat prices led to a situation of excess supply and large income losses by livestock producers after 1973. Livestock producers responded by liquidating their herds. This action increased the supply of meat for current consumption and further exacerbated the downward pressure on livestock prices in the face of high feed grain costs. The liquidation of livestock herds was directly reflected in the declining inventory of both cattle and hogs. The inventory of cattle and calves declined from a peak of 132 million in 1974 to an estimated 116.3 million at the end of 1977. Thus, the amount of meat supplied to the market could not be sustained on a long term basis. The liquidation of herds created a situation where prices were abnormally low relative to costs.

The return of grain prices to more normal levels has improved the profitability of livestock producers, but the liquidation of cattle herds continued throughout 1977. The

lag in adjusting pork supplies is shorter and production has adjusted more fully to the sharp cycle in feeding costs. Thus, significant increases in pork production were achieved in 1977 along with an improvement in the hog inventory. The outlook for 1978 indicates a strong increase in pork production with relatively stable prices. With an anticipated future turnaround in the liquidation of cattle herds, however, the growth in the supply of beef will be limited. Some forecasters anticipated such a return to stock rebuilding in 1977, but it did not occur. The tradeoff between reduced feeding costs for current marketings and improved grazing land conditions has complicated efforts to predict precisely when the turnaround in cattle herds will occur.

Grain Prices

Grains are a small direct element of the consumer food budget, but they are a critical cost element in the determination of prices of livestock and livestock products. The scarcities in world grain markets that began in 1972 have been the subject of several studies. 2/ The impact on the U.S. grain market of the various factors cited in those studies is summarized in Table IV-3. Annual levels of grain production, stocks, consumption, and exports are shown as deviations from trend levels in order to highlight the year-to-year variations.

The high levels of grain reserves that were maintained during the first half of the 1960s provided a large buffer against unexpected variations in production and consumption. (See column 2 of Table IV-3.) Thus, despite a government policy of withholding large amounts of acreage from production, the gap between current production and grain demands could be met by reducing reserves, and grain prices remained very stable. In the 1966/67 marketing year a sharp drop in production in the face of moderately low reserves generated some upward pressures, but it was quickly offset by releasing land from government acreage controls and a strong expansion of production. Again in 1971, a sharp drop in production was met by reducing reserves and freeing land from government reserves, and the rise in prices was limited.

2/ See, for example, Dale E. Hathaway, "Food Prices and Inflation," BPEA, 1974:1, pp. 83-102; World Food Conference, United Nations, Assessment of the World Food Situation, Present and Future, E/CONF, 65/3, 1974, pp. 15-24; D. Gale Johnson, World Food Problems and Prospects (American Enterprise Institute, 1975), pp. 7-34; and Fred H. Sanderson, "The Great Food Fumble," Science, May 9, 1975, Vol. 188, pp. 503-509.

TABLE IV-3: U.S. SUPPLY AND DEMAND BALANCE FOR GRAINS DEVIATIONS FROM TREND
(Millions of Metric Tons)

Year	Available Supply: Current Production a/	Available Supply: Excess Stocks b/	Available Supply: Total	Actual Demand: Domestic Consumption c/	Actual Demand: Net Exports d/	Actual Demand: Total	Production-Demand Gap	Corn Price ($/bu)	Withheld Acreage
1961/62	-10.4	58.9	48.5	7.9	-2.8	5.1	-15.5	$1.10	53.7
63	-16.6	43.4	26.7	1.4	-6.0	-4.6	-12.1	1.12	64.7
64	- 9.1	31.3	22.2	-3.9	0.1	-3.8	- 5.3	1.11	56.1
65	-28.0	26.0	- 2.0	-8.7	-2.3	-11.1	-12.6	1.17	55.5
66	-10.3	13.4	3.0	3.1	6.5	9.6	-20.0	1.16	57.4
67	-15.0	- 6.6	-21.6	-1.5	-3.1	-4.6	-10.4	1.24	63.3
68	3.2	-17.0	-13.8	-4.5	-3.7	-8.1	11.3	1.03	40.7
69	- 8.3	- 5.7	-14.0	0.2	-15.9	-15.6	7.3	1.08	49.4
1969/70	-10.5	1.7	-8.8	3.9	-13.7	-9.8	-0.7	1.16	58.0
71	-34.1	1.0	-33.1	-2.3	-11.5	-13.8	-20.3	1.33	57.1
72	10.7	-19.3	-8.6	5.1	-11.2	-6.1	16.8	1.08	37.6
73	-4.9	2.5	-7.4	6.8	16.1	22.9	-27.8	1.57	62.1
74	-1.6	-29.9	-31.5	-1.1	18.5	17.4	-19.0	2.55	19.6
75	-41.8	-48.9	-90.7	-41.6	5.7	-35.9	-5.9	3.03	2.7
76	-5.5	-54.8	-60.3	-33.8	22.4	-11.4	6.0	2.54	2.4
77	-3.8	-48.8	-52.6	-40.8	15.0	-25.8	24.4	2.18	2.1
1977/78e	-3.3	-24.4	-27.7	-34.5	18.2	-16.3	10.1		
1978/79e		-14.3							

a/ Trend production is defined as amount required to meet trend levels of consumption and net exports plus maintain the normal inventory stock.
b/ Trend inventory stock is defined as 1962-77 average ratio of stocks to trend levels of consumption and exports data refer to stocks at the beginning of the marketing year.
c/ Trend consumption is defined by logarithmic trend level of 1962-72.
d/ Trend exports are defined as 1962-77 average ratio of net exports to trend level of consumption in the rest of world.

SOURCE: Appendix Table B-2.

Throughout the last half of the 1960s and early 1970s, the reduced reserve position of the U.S. was not evident in prices because high levels of foreign production limited U.S. grain exports. In the 1972/73 marketing year, however, large grain exports to the Soviet Union reduced U.S. grain reserves to record low levels. When exports showed continued strength in the following year, the U.S. reserve was nearly exhausted and grain prices exploded upward. The 1974/75 marketing year marked the third straight year of crisis. The U.S. suffered a severe drop in production in the face of extremely low reserves. Corn prices soared temporarily to over $3.50 per bushel and averaged over $3.00 per bushel for the marketing year as a whole.

It is commonly assumed that the grain shortage has been moderated in the years since 1975 by putting land back into production with a consequent surge in output. It is true that U.S. harvested acreage expanded by 22 percent between 1972 and 1975. But, as is evident from column 1, production

did not rise above the levels required to meet the historical trend growth in demand. The amount of land under cultivation increased, but the annual improvement in yields slowed significantly.

Instead, the grain markets were brought back into balance by an enormous drop in domestic grain consumption -- 23 percent below normal levels in 1974/75 -- that has continued to the present time. The drop in grain demand has been reflected in declining U.S. livestock herds, the shifting of cattle from feedlots to pasture land, and reduced average weight of slaughtered beef animals. Thus, the reduction in consumption rather than an expansion of production has made possible a significant rebuilding of grain reserves with a consequent decline in grain prices.

Today, U.S. grain reserves have been restored to the levels that existed prior to the 1972/73 crop failures. Those reserves are adequate to meet a one- or two-year world crop failure of the magnitude typically experienced in the past, but could not absorb a string of several years of reduced production.

There are several elements of this situation that will have an important bearing on future inflation trends. First, the additions to reserves have been made possible only by a continuation of abnormally low levels of United States grain consumption. If the drop in demand was a response to high prices, the current low prices should lead to a recovery of demand and a reduction in the margin of production above demand which is available to add to reserves. Because the various factors responsible for the drop in demand have not been fully analyzed, however, the expected future growth of demand remains highly uncertain.

In addition, unlike the situation in the early 1970s, the current grain reserve level is not backed up by a large reserve of idle acreage. Thus, if a shortage should reoccur in the near term, production would be significantly less responsive than in the 1972-77 period. On the other hand, a continuation of grain consumption at the current below-trend levels and of moderately good harvests would imply a significant surplus of production above current needs. This would result in grain prices being held down to support levels and either a rapid buildup of reserves in future years or removal of land from production.

Finally, the sharp drop in grain consumption within the U.S. during the shortage period was not matched by a similar adjustment in other countries. Other countries relied

heavily upon reductions in import levies and modifications in other policies as a means of drawing in foreign supplies and sheltering their own economies against the rise in world food prices. In fact, the U.S. and Canada, which maintain domestic grain prices near world levels, were among the few industrial countries that experienced a rise in the relative price of food at the consumer level. There was a significant drop in soviet grain consumption in 1976 because the magnitude of their crop failure exceeded the capacity to import. But, for the rest of the world (excluding the U.S. and the U.S.S.R.) the decline of grain consumption below trend levels was less than 5 percent. The concentration of the adjustment of demand to supply shortages within a few countries greatly increased the magnitude of the price increases required to restore a balance.

Grain prices will not decline further in the future because they have reached support levels. But, even in the absence of support prices, declines would be limited by the costs of production. Department of Agriculture data for 1977 indicated an average nationwide level of production costs (including all costs except land) for wheat of $2.43 per bushel compared to a current price of $2.75. The costs per bushel of corn were $1.60 compared to a price of $2.15. Land prices are not included in the costs, since real estate prices tend to rise to absorb the difference between prices and costs. However, average acquisition costs raise the total production costs to $3.10 per bushel for wheat and $2.12 per bushel for corn. Farm land prices rose nationally by 85 percent between 1972 and 1976 and by 140 to 150 percent in grain-producing regions such as Iowa (corn) and North Dakota (wheat). During the earlier period of high grain prices many grain farmers participated in this speculation on land prices. The readjustment to lower grain prices will be as painful for them as the original grain price increases were for livestock producers and consumers.

Outlook

It is evident that the earlier upward surge of farm prices has been fully reversed and that there is little opportunity for future declines in food prices to provide the initiative for a deceleration of the overall inflation. Grain prices are close to costs of production and, on average, profit margins of livestock producers are modest. The reversal of the farm price inflation is also reflected in real net farm income (adjusted for inflation). After doubling between 1971 and 1974, real income has returned to the levels of the early 1970s.

Thus, it can be anticipated that, in the absence of crop failures, prices at the farm level are likely to rise in step with the overall inflation in future years. Similarly, marketing margins of processors and distributors will rise. The improved outlook for food prices in 1978 is largely the result of an anticipated decline in imported food prices.

Energy Costs

Energy prices have risen dramatically since the 1973 Arab oil embargo. The price of imported petroleum in the United States has increased by 350 percent to $14.46 per barrel. The impact of this price increase on the consumer's budget, however, has been significantly effected by regulations on domestically produced petroleum prices and the response in the markets for alternative energy sources. In addition, the value of the crude petroleum is only a fraction of the price paid by the consumer, which includes refining and distribution costs. (See Table IV-4.) Thus, the average

TABLE IV-4: PERCENTAGE PRICE CHANGE FOR COMPONENTS OF CONSUMER ENERGY PURCHASES, 1967-77

	1967-72	1972-77
Consumer Price Index (total)	25.3	44.9
Imported Petroleum Prices	13.0	349.1
Consumer Energy Prices	14.3	81.3
Gasoline and motor oil	8.8	71.6
Fuel oil and coal	18.5	139.2
Natural gas	22.3	95.7
Electricity	18.9	89.3

SOURCE: Department of Labor and Department of Energy.

price of energy paid by consumers has increased by 81 percent since 1973 compared to an average of 45 percent for all items in the CPI.

Today, prices of domestically produced energy are, on average, significantly below world market levels. Thus, even in the absence of further world price increases, the domestic price of energy will continue to rise rapidly as old, low-priced energy sources are exhausted and average prices rise to the incremental cost of new supplies. The extent to which this adjustment to world price levels has been completed varies sharply among different energy sources; therefore, future rates of consumer price increases will vary among the major categories of petroleum, natural gas, and coal.

Petroleum Prices

The United States is less dependent upon petroleum and, in particular, imported petroleum as an energy source than other industrial countries. About 50 percent of U.S. energy consumption is derived from petroleum, 25 percent from natural gas, and 20 percent from coal (principally for electrical generation and steel production). Thus, the direct effects of world petroleum price changes are less disruptive for the United States. On the other hand, energy consumption per capita in the U.S. is substantially above that of other countries, and changes in petroleum prices result in adjustments in the prices of competing fuels. Moreover, there is a larger percentage impact on consumer prices than in other countries because the U.S. has a substantially lower level of taxation on energy use.

Refined petroleum products in the U.S. are derived from domestic (controlled and uncontrolled) crude oil, foreign crude oil imports, and refined product imports (principally residual fuel oil). To estimate the sensitivity of prices of refined products to changes in the price of crude, it is necessary to analyze separately the impacts of foreign crude prices, domestic crude prices and prices of foreign refined products to the extent that they are actually imported or potentially importable. It is also necessary to consider the behavior of all the values added to the crude from its wellhead until it is refined and distributed to users. These value-added operations include principally transportation, refining, distribution and retailing. For this purpose, attention is focused on the price of a mixed barrel of refined products, consisting of gasoline, #2 distillate fuel, jet fuel and residual fuel oil, which together account for over 80 percent of the total products refined in the U.S.

The process by which prices of final products change in response to changes in the prices of crude oil is illustrated in Table IV-5. Over the 1972-77 period, the landed price 3/

TABLE IV-5: SOURCES OF COST INCREASES FOR REFINED PETROLEUM PRODUCTS, 1968-77

	Dollars Per Barrel			Change, 1972-77	
	1968	1972	1977a/	(dollars)	(percent)
Refiners' Acquisition Costs					
Imported Crude (landed price)	$2.90	$3.22	$14.46	$11.24	349
Domestic	NA	3.66	9.26	5.60	153
Wellhead	2.94	3.39	8.48	--	--
Transportation and additives	NA	0.27	0.78	--	--
Average Refiners' Price	3.17	3.58	11.82	8.24	230
Percent Imported (by volume)	13	20	46		
Refinery and Distribution Margin	1.96	2.17	3.67	1.50	69
Average Mixed Barrel Price	5.13	5.75	15.49	9.74	169
Dealer Margin (gasoline, ½ barrel)	1.37	1.41	1.70	0.29	21
Retail Price (excluding taxes)	6.50	7.16	17.19	10.03	140
Taxes (Federal and State)	2.26	2.45	2.60	0.15	6
TOTAL	8.76	9.61	19.79	10.18	106

a/ First six months.

SOURCES: Imported and Domestic Crude Prices and Taxes (Federal and State) from American Petroleum Institute, Basic Petroleum Data Book. 1977 from Department of Energy, Monthly Energy Review. All others from Federal Energy Administration, Findings and Views Concerning the Exemption of Motor Gasoline from the Mandatory Petroleum Allocation and Price Regulations, September 1977.

of imported petroleum increased by over $11 per barrel from $3.22 p/b to $14.46 p/b, which is an increase of 350 percent. But price controls on old oil limited the average domestic wellhead price increase to about $5.60, from $3.39 p/b. Thus, the price of the mixed barrel at the distribution level (inclusive of refining costs) rose by only $9.74 p/b, from $5.75 to $15.49, an increase of about 170 percent.

3/ The "landed price" includes transportation costs and import fees and any other costs incurred in purchasing and shipping crude oil to the United States.

Thus, over the period from 1972 to 1977, the increase in the price of landed foreign crude was not entirely reflected in product prices. Domestic crude oil prices rose by less than half the increase in the price of imports. The rise in refining and distribution costs was in line with the general inflation, and the increases in gasoline dealer margins and taxes were far more limited. The slow rate of increase in dealer margins reflects a trend toward greater reliance on self-service gas stations, while federal and state taxes are set on a per-gallon basis and have not been increased in step with inflation. In fact, after adjusting for general inflation, the retail price of regular gasoline in 1977 was only two cents higher than in 1967 and it is actually cheaper today than in the early 1960s.

The present levels of retail prices raise some questions about the effectiveness of controls. Both distillate and residual fuel oil are free of price controls, and gasoline and jet fuel are close to their free market levels. In addition, significant amounts of petroleum products are imported and prices of domestic producers seem identical with world prices. Yet, over 50 percent of U.S. production is derived from domestic crude oil with a controlled price about one-third less than the world level. If imported products reflected the world price of crude petroleum, and, if the advantages of low price domestic oil were being passed through to the consumer level, U.S. prices for petroleum products should be below world market level. But, this does not appear to be true. Indeed, some product imports continue to come into the U.S. market. Perhaps low utilization of capacity has driven world prices of refined products far below the level which would cover all costs. Alternatively there may have been major efficiency gains in refinery and distribution operations. But the acquisition cost of domestic refineries, which is $2.64 p/b ($14.46-11.82) below the landed price of imported crude, is a substantial advantage for foreign producers to overcome. Finally, it is possible that restrictions on import competition prior to 1973 led to an excessively high level of refinery and distribution margins within the U.S. from which the changes are measured.

In any case, the apparent equivalence between the domestic product price and world market prices raises doubts that a domestic wellhead tax would be fully passed through to consumer prices. Any domestic crude oil price increase should trigger greater importation of refined products and less of crude since it would improve the competitive position

of foreign refiners. At the same time, the rise in average domestic wellhead prices that will occur over time, even without a tax, will only raise consumer prices if, in fact, the economic rent has not been captured previously in the form of high refinery and distributor margins.

Because of expanding world output of petroleum and low growth in demand, the actual price of imported crude has not increased significantly over the past three years. After adjusting for the U.S. inflation rate, the 1977 price of imported crude was in fact below the 1975 level. Although this trend may continue for the short term, the upward course of the world crude price will likely resume as the rate of increase in demand overtakes that of supply in the early 1980s. With a rising world crude price, U.S. refined petroleum product prices will also rise. For example, a 10 percent increase in the actual price of imported crude could directly produce as much as a 5 percent increase in the retail price of refined petroleum products, given U.S. dependence on imports and the small but not insignificant amount of uncontrolled domestic crude. Indirect price effects -- because of fuel substitutability and CPI-dependent escalator increases -- can also be expected to occur, but these are much harder to estimate.

Even without any increase in world crude prices, the upward course of U.S. petroleum-based fuel prices is inevitable. With the declining proportion of "old" oil in domestic output, and the increasing dependence on petroleum imports, the average domestic price will rise. Under the Emergency Petroleum Allocation Act, as amended, the average price of domestic crude (the "Statutory Composite Price") is adjusted upward at a rate that is not to exceed 10 percent annually. The net impact on refined product prices could be as high as 4 percent annually.

Natural Gas Prices

The relationship between wellhead and delivered retail prices of natural gas is shown in Table IV-6. In the case of natural gas, regulation of prices in the interstate market and the existence of long-term contracts signed prior to 1973 have combined to limit sharply the rise in average prices compared to the rise in incremental costs of new supplies. Thus, the average pipeline purchase price was only $.83/mcf in 1977 compared to new contracts for gas in excess of $2.00/mcf. Although the average pipeline price rose by 275 percent in only five years, smaller percentage increases in distribution costs limited the rise in prices for residential, commercial and industrial users to 150 percent.

TABLE IV-6: NATURAL GAS PRICES, 1973-77

	1973		1976		1977		Price Change, 1973-77	
	Volume (TCF)	Price (¢/MCF)	Volume (TCF)	Price (¢/MCF)	Volume (TCF)	Price (¢/MCF)	Cents	Percent
Domestic Interstate Wellhead	12.1	22.6	10.1	48.1	NA	72.1[a/]	49.5	219
Domestic Intrastate Wellhead	10.6	20.2	9.8	68.3	NA	NA		
Pipeline Imports	1.0	34.8	1.0	172.6	1.0	188.0[a/]	153.2	440
Average Purchase Price	23.1	22.2	20.9	63.3	21.0	83.2[p/]	61.0	275
Pipeline Transmission (Citygate) Costs		23.8		34.7		50.8[p/]	27.0	113
Local Distribution Costs		33.0		62.0		63.0[p/]	30.0	91
Average Retail Price		79.0		160.0		197.0[p/]	118.0	149

a/ July 1977
p/ Preliminary

SOURCE: Department of Energy Monthly Energy Review, American Gas Association, Gas Facts, and Council calculations.

Nonetheless, natural gas remains by far the most attractive of fossil fuels on a BTU basis, not to mention its superior environmental and handling qualities. A comparison to the BTU equivalent price of petroleum or to new contract prices for natural gas suggests that natural gas costs will rise dramatically in future years as the old contracts expire and are replaced by higher priced new sources. This increase could be as high as 20 to 25 percent annually over the next two years. At present, the retail price of natural gas reflects only a small portion of the increase required to bring natural gas prices to a level commensurate with the world market price for petroleum.

Coal Prices

During the 1970s, the average price of coal has risen sharply -- with much of this increase coming in 1974 -- after remaining relatively stable through the earlier post-war decades. In 1974, demand conditions -- especially, the strength of economic activity, the improved competitive position vis-a-vis petroleum, and the anticipation of a UMW strike at the end of 1974 -- created an exceptionally tight market. Prices rose 150 percent in the spot market and 60 percent in the contract market for steam-electric coal. 4/ (See Table IV-7.) Since 1974, average prices for steam-electric coal delivered under long-term contract have

TABLE IV-7: DELIVERED PRICES FOR STEAM-ELECTRIC COAL

	Spot Prices			Contract Prices		
	Dollars/ ton	Cents/ mm Btu	Annual Change (percent)	Dollars/ ton	Cents/ mm Btu	Annual Change (percent)
Dec. 1972	9.73	41.6	---	8.00	36.4	---
Dec. 1973	13.34	58.0	39.4	9.19	42.4	16.5
Dec. 1974	31.05	142.1	145.0	14.20	68.1	60.6
Dec. 1975	22.40	96.8	-31.9	16.90	79.5	16.7
Dec. 1976	21.49	92.4	-4.5	18.15	85.5	7.5
June 1977	24.62	106.0	29.4	19.03	89.9	10.2

SOURCE: Federal Power Commission.

increased another 28 percent. But, there was a substantial easing of prices in the spot markets from the 1974 peak. In 1977, however, as adverse weather conditions and wildcat strikes disrupted production and users sought to build up stocks in anticipation of a UMW strike this winter, there was again an upward movement in spot prices.

4/ Steam-electric coal is used largely in electric generating plants. Metallurgical coal is used in the steel industry.

Although recent cost increases lagged well behind the of coal prices in 1974, coal mining costs have largely caught up to coal prices since the end of 1974. (See Table IV-8.) A 70 percent increase between 1974 and 1976 in labor

TABLE IV-8: INDEX OF MINING COSTS FOR STEAM-ELECTRIC COAL

Year	Index of Mining Costs, Steam Electric[a/]	Change in Mining Costs (percent)	Index of Delivered Coal Costs, Steam Electric[a/]	Change in Delivered Costs (percent)	Net After Tax Profits[b/] ($/Ton)
1973	109.0	--	100.0	--	0.51
1974	134.6	23.5	173.8	73.8	2.03
1975	179.9	33.7	203.5	17.1	2.65
1976	208.6	16.0	211.5	3.9	2.51
1977	229.7	10.1	232.8	10.1	--

a/ Mid-year, Federal Power Commission.
b/ Based on a limited sample of companies producing steam-electric coal.
SOURCE: Council on Wage and Price Stability calculations.

costs -- the result of a continuing decline in labor productivity and the substantial increase in total compensation resulting from the 1974 UMW collective bargaining agreement -- played an especially prominent role in the overall increase in coal mining costs. Available data on the profitability of coal operations reflect this catch-up in operating costs. After reaching a very high level peak in 1975, the profitability of coal mining has declined. (See Table IV-8.)

Because current production capacity exceeds by a substantial margin the projected level of coal consumption over the next year, the spot market for steam-electric coal is likely to be relatively soft. Prices will decline from the peak reached this past fall once a settlement has been finalized in the current UMW strike. Because of the cost adjustment provisions within most long-term contracts, however, the cost of coal delivered to electric utilities is likely to continue to increase. There will be a pass-through of increased labor costs, reclamation costs, and the severance tax on coal to fund a new black lung insurance program. The combination of these costs is likely to add a minimum of two to three dollars per ton -- or 10 to 15 percent -- to the delivered cost of steam-electric coal over the next year.

Energy Costs and Electricity Rates

Coal-fired plants account for 60 percent of net electric power generation from fossil fuel-fired plants, consuming 75 percent of U.S. coal production. 5/ Because a variety of fossil fuels are used in the generation of electricity, electric utility energy cost is a blend of the delivered costs for each of the several fossil fuels. (See Table IV-9.) As a result, the impact on total fossil energy costs of

TABLE IV-9: AVERAGE DELIVERED PRICES FOR FOSSIL FUELS DELIVERED TO STEAM ELECTRIC PLANTS

	Coal		Fuel Oil, All Types		Natural Gas		All Fossil Fuel	
	Cents/ mm Btu	Annual Change (Percent)	Cents/ mm Btu	Annual Change (Percent)	Cents/ mm Btu	Annual Change (Percent)	Cents/ mm Btu	Annual Change (Percent)
Dec. 1972	37.3	--	62.6	--	29.8	--	41.7	--
Dec. 1973	45.5	22.0	121.1	93.5	36.2	21.5	61.1	46.5
Dec. 1974	88.9	95.4	204.6	69.0	55.5	53.3	114.8	87.9
Dec. 1975	82.2	-7.5	201.1	-1.7	86.1	55.1	107.0	-6.8
Dec. 1976	86.6	5.4	209.8	4.3	111.3	29.3	118.6	10.8
June 1977	93.3	15.4	218.5	8.2	130.5	34.5	122.0	--

SOURCE: Federal Power Commission.

a sharp rise in the delivered cost of one fuel component is diminished. In 1974, there were sharp rises in the cost of each of the fossil fuels which were translated into a dramatic rise in overall delivered fossil energy costs. After some price readjustment in 1975 as the recession relieved demand pressures in the coal and oil markets, the delivered costs for oil and coal have resumed their upward climb, and overall fossil energy costs have increased at an annual rate of about 10 percent per year.

5/ At present, fossil fuel-fired steam plants are responsible for 85 percent of the electricity generated by intermediate and baseload plants.

Fossil fuel costs represent only a part of the overall costs of generating electricity so that sharp rises in the price of fossil fuels -- like the increase in 1974 -- are attenuated by the time they reach the residential customer in the form of higher electricity rates. This is illustrated by the experience in 1973-1974 when the percentage rate of increase in residential electric rates was less than one-fifth the rate of increase of electric utility fossil energy costs. (See Table IV-10.) But, even in terms of absolute

TABLE IV-10: FOSSIL FUEL COSTS AND RESIDENTIAL ELECTRICITY RATES, DECEMBER 1972 TO DECEMBER 1977

	Fossil Fuel Cost[a]		Average Residential Rates[b]		Consumer Price Index-Electricity	
	Cents/ kwh	Annual Change (Percent)	Cents/ kwh	Annual Change (Percent)	Index	Annual Change (Percent)
Dec. 1972	0.438	--	2.26	--	120.2	--
Dec. 1973	0.642	46.5	2.46	8.85	129.0	7.3
Dec. 1974	1.204	87.7	2.98	21.1	157.5	22.1
Dec. 1975	1.122	-6.8	3.24	8.7	171.4	8.8
Dec. 1976	1.245	10.9	3.41	5.2	182.4	6.4
Dec. 1977	1.315 c/	11.2	NA			

a/ Delivered Cost in cents per million Btu times a heat rate of 10,500 Btu per kwh.

b/ Edison Electric Institute, 1976 Statistical Yearbook. Ratio of revenues received from residential customers divided by sales to residential customers.

c/ June 1977.

SOURCES: Edison Electric Institute, 1976 Statistical Yearbook, the Federal Power Commisssion, and the Bureau of Labor Statistics.

changes, the increase in residential electricity rates (in cents per kwh) did not fully reflect the increase in fossil fuel costs.

Medical Care Costs

The health care sector has long been troubled by high rates of inflation in both prices and total costs. National

health care expenditures increased from $26 billion in FY 1960 (5.2 percent of GNP) to $139 billion in FY 1976 (8.6 percent of GNP). (See Table IV-11). During FY 1977 it is estimated that health expenditures increased about 15 percent to $160 billion. The growth in hospital care expenditures has outpaced the growth in other health expenditure categories, increasing from $8 billion in 1960 to $55 billion in 1976. The observed increase in health expenditures since 1960 reflects increases of approximately equal dimension in the price and quantity of health services.

In most sectors of the economy, changes in expenditures are not considered an indication of the extent of the inflation problem. In the health care sector, however, there is a clear dichotomy between the two determinants of expenditures, price and quantity. Because of the complexity of medical care services and the often limited role of the consumer relative to the physician in deciding what and how much care should be provided, the quantity of services purchased -- diagnostic tests, use of equipment, treatment procedures, length of hospital stay -- may be a meaningless concept to the consumer. From the patient's viewpoint, the service purchased is "getting well," and the "price" is represented by the total medical care bill. Inflation in this sector, therefore, may legitimately be measured by changes in the cost of medical care as well as in medical care prices.

Inflation for Specific Medical Care Items

Hospital charges have risen much more rapidly than prices of other medical care items since 1960, although the gap has narrowed in recent years. (Table IV-11.) Hospital price inflation was greatest during the 1965-1970 period (14 percent per year), diminished during the period of wage and price controls, spurted after controls were lifted and decelerated somewhat during the past year. In calendar year 1977, hospital charges increased 10.4 percent.

Physicians' fees have also been an important source of medical care inflation, rising consistently faster than nonmedical care prices, except during the controls period. As with hospital prices, physicians' fees spurted after controls were lifted and since then have abated somewhat. During 1977, physicians' fees increased 9.2 percent.

Other important medical care components are dental services and drugs and prescriptions. Since 1960 dentists' fees have increased at approximately the same rate as nonmedical care prices. During 1977, dentists' fees rose 7.3 percent. Drugs and prescriptions have long been the

sole medical care component that has experienced significantly less inflation than nonmedical care consumer items. In 1974, when the CPI stood at 147.7, the level of the drugs and prescriptions component of the CPI was only 109.6. This very low rate of inflation for drugs, however, may be misleading. It is not uncommon for newly marketed drugs to be initially priced several times as high as the drugs they replace. While this may result in increased expenditures for drugs, it would generally have no impact on the CPI as only the older drugs would be priced. Furthermore, it is the nature of drug marketing that newly marketed drugs are often priced highest at their introduction in order to recoup large research and promotional expenses and to take advantage of a lack of close substitutes, a situation which may exist temporarily. As similar drugs are marketed by other firms, prices may fall or increase more slowly than the overall rate of inflation.

Since 1974, drug and prescription prices have departed from the earlier trend, increasing at approximately the same rate as all consumer prices. This may reflect, in part, rapid inflation in prices of petroleum, an important input for many pharmaceuticals, and increased costs for research and testing required to satisfy more stringent government standards.

With the exception of the 1971-74 period of wage and price controls, medical care price increases have consistently outpaced overall inflation. For the entire 1960-76 period, annual increases in medical care prices averaged 65 percent more than increases in nonmedical care prices. During calendar year 1977, health care prices increased 8.8 percent compared to 6.6 percent for the entire CPI less medical care.

Principal Causes of Higher Health Care Costs

The Council has completed studies of the causes of rapid inflation in both hospital and physician costs. The primary cause of more rapid inflation in the health care sector appears to be the reduced importance of normal market forces which operate in most markets as constraints to increases in prices and costs. This is due largely to extensive insurance coverage under private insurance and the Medicare and Medicaid programs, which together reduced direct consumer payment for hospital expenditures to only 9 percent and for physician expenditures to only 39 percent in 1976.

Another element in the rapid growth of health care costs is the typical payment approach adopted by third party payors. Most hospital costs are paid on a retrospective cost

reimbursement basis, an approach which provides little incentive for cost minimization, and which guarantees payment for new sophisticated facilities even if those facilities duplicate available facilities in nearby institutions. Simply stated, under the retrospective cost reimbursement, "the more that is spent, the more that is paid for."

The "usual, customary, and reasonable" approach used by many insurers under comprehensive or major medical insurance policies may also contribute to inflationary pressures. It allows physicians wide latitude in determining their fees and level of insurer reimbursement. Fees are generally considered reasonable (and payable) as long as they do not exceed the physician's usual fee and are no higher than the highest 10 percent of fees prevailing in that community. For high-fee, relatively well-insured services, such as surgery, this payment approach virtually eliminates the traditional role of market forces in constraining fee inflation.

An additional contributing factor to hospital and physician price inflation in recent years has been sharply rising malpractice insurance costs. The impact of this factor may have been overstated as, even after recent increases, it accounts for only about 2 percent of hospital revenues and 3 percent of physician revenues. The malpractice problem may have had a greater effect on total expenditures, however, as there is evidence of substantial growth in the practice of "defensive medicine" by physicians to prevent malpractice suits.

Projection for 1978

During 1978, medical care prices and expenditures can be expected to continue to increase more rapidly than both overall prices and GNP. Last year the Administration introduced a hospital cost containment proposal in Congress that would limit growth in hospital revenues to a rate determined by the overall inflation rate plus some adjustment for increased intensity of hospital care. If passed this year, this proposal would limit growth in hospital revenues for the portion of 1978 for which it is applicable to an annual rate of 10-11 percent, in contrast to the rate of approximately 15 percent experienced during 1976 and 1977. Without the Administration's program, growth in hospital expenditures may be reduced slightly, perhaps by one or two percentage points, because of increased pressure from some state hospital regulatory authorities and Medicaid programs, and because of some voluntary hospital association efforts to control costs.

The rate of increase in physician fees and expenditures may also be reduced by one or two percentage points because of the stabilization of malpractice insurance rates. While inflation in the medical care sector may abate slightly during the near term, it will continue to remain a significant source of inflationary pressure, with medical expenditures consuming an increasing portion of our national income. During FY 1978, national health expenditures will approximate $185 billion, or about 9.3 percent of GNP.

TABLE IV-11: MEDICAL CARE EXPENDITURES AND PRICES, 1960-1977

	Total Health Expenditure (Billions)	Total As In Percent of GNP	Hospital Care (Billions)	Physician Services (Billions)
Fiscal year				
1960	$25.9	5.2	$ 8.5	$ 5.6
1965	38.9	5.9	13.2	8.4
1970	69.2	7.2	25.9	13.4
1971	77.2	7.6	29.1	15.1
1972	86.7	7.8	32.7	16.5
1973	95.4	7.7	36.2	18.0
1974	106.3	7.8	41.0	19.7
1975	122.2	8.4	48.2	22.9
1976	139.3	8.6	55.4	26.4

	Medical Care and Other Consumer Prices (Average Annual Rates of Change)			
Annual Average	CPI, All items[a]	Medical Care[b]	Hospital Care[c]	Physicians' Services
1960-65	1.2%	5.6%	5.8%	2.8%
1965-70	4.1	6.1	13.9	6.6
1970-75	6.5	7.4	9.5	7.6
1970	5.8	6.3	12.9	7.5
1971	4.1	6.5	12.2	6.9
1972	3.3	3.2	6.6	3.1
1973	6.4	3.9	4.7	3.3
1974	11.1	9.3	9.0	9.2
1975	8.9	12.0	14.9	12.3
1976	5.5	9.5	12.4	11.3
Twelve months ending 12/77	6.6	8.8	10.4	9.2

a/ Less medical care items.
b/ In some years, the change in the medical care component of the CPI exceeds the weighted average of its component indices because of an annual adjustment in the medical care component to reflect recent changes in health insurance retained earnings.
c/ From 1960 through 1973, Semi-private room charge; from 1973-1977, Hospital service charges.

SOURCE: Social Security Bulletin, February, 1976 and April 1977; Consumer Price Index, Bureau of Labor Statistics.

Government Actions

No general discussion of inflation is complete without considering the impact of government actions on the economy. The way the government raises and spends its revenues effects prices, and this will briefly be discussed at the end of this section. In the past, however, less attention has been focused on the inflationary implications of government regulatory activities, which are not reflected in budgetary decisions but which have an increasingly widespread effect on the economy.

In some major instances, by dictating a price above the free-market price, government regulation is clearly inflationary. In other instances, while it is evident that regulatory activities raise the prices of goods and services, the desirability of these actions ultimately depends on how much society benefits from them. In addition, it is argued that the increased involvement of government in such activities as licensing and controls that impede plant expansion has hampered the economy's ability to adjust to shocks of various kinds. If this is the case, effective anti-inflationary policy becomes more difficult.

It is useful, for purposes of analysis, to distinguish between two types of government regulation:

(i) Regulation that is explicitly concerned with the determination of the price and quantity produced of a particular good or service. Included in the category is the traditional rate-setting regulation that is largely administered by independent agencies.

(ii) Regulation that indirectly affects prices and quantities by specifying product or production characteristics. Included in this category are the more recent health, safety, and environmental regulations that are largely administered by Executive-branch departments and agencies.

Direct Price Setting Regulation

Federal regulation of this type includes the setting of rates for surface transportation by the Interstate Commerce Commission, air transportation by the Civil Aeronautics Board, telephone service by the Federal Communications Commission, and natural gas by the Federal Energy Regulatory Commission. In addition, the Federal bank regulatory agencies set maximum rates of interest which can be paid on various

types of deposits. The Department of Agriculture, through its price support programs, sets minimum prices on a number of commodities and also influences prices through its marketing order programs. Finally, international trade restrictions affect a variety of domestic prices.

Transportation Regulation. Probably the clearest example of the upward pressure on prices resulting from rate regulation is in the transportation area, where, in the absence of regulation, prices and costs would be substantially lower. Estimates of the higher prices caused by CAB entry restrictions and fare regulations have been in the 30 percent range. 6/ Internal reform, along with prospects for legislative reform, should result in a significant reduction in fares. Offsetting this reduction would probably be higher load factors, less frequent service, a reduction of some amenities, and perhaps marginally higher fares on some low-density routes.

The costs of ICC regulation of surface transportation are not nearly as visible to the consumer as are the costs of airline regulation. However, these costs are also substantial and are reflected in the prices that consumers pay for virtually all goods that require transportation. Estimates of the higher prices caused by ICC entry controls and rate regulation are in the 20 percent range. 7/ In addition, the ICC has a major cost increasing effect on that segment of the surface transportation industry that is not directly subject to entry and rate regulation.

The higher prices that result from regulation in the transportation area are not always translated into excessive profits. In many instances, costs are high due to a variety of regulation-induced inefficiencies. For example, regulation is believed to result in significant excess capacity in both air and surface transportation.

Agriculture. The Federal government, through its willingness to purchase (or make loans on) agricultural commodities at prices above free market levels, can have a significant

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6/ Comptroller General of the United States, "Lower Airline Costs Per Passenger are Possible in the United States and Could Result in Lower Fares," Report to the Congress, February 18, 1977, p. 11.

7/ Thomas G. Moore, "Deregulating Surface Freight Transportation," in A. Phillips ed., Promoting Competition in Regulated Markets, The Brookings Institution, 1975, p. 60.

inflationary effect, depending on market conditions. Price support programs exist for a wide variety of commodities including dairy products, sugar, wheat, corn and other feed grains, rice, soybeans, tobacco, peanuts, and cotton. These programs are sometimes supplemented by efforts to restrict production, such as acreage allotments and set-aside programs. In many instances, price supports are below free market prices and, consequently, do not have an inflationary effect. In other cases, however, the price supports are effective and raise costs to consumers.

Federal market orders for milk and some fruits, vegetables, and nuts may also have an inflationary impact. The milk market order program (which probably has the largest impact) sets a higher price for milk used for fluid consumption relative to milk used for manufacturing. 8/ Cooperatives, operating subject to the Capper-Volstead antitrust exemption, raise the price of fluid milk even higher.

The objective of marketing orders is to achieve the ill-defined goal of an "orderly marketing" system by stabilizing the flow of commodities to markets to avoid gluts and shortages, and by establishing quality standards for some commodities. The result of attempting to control the flow of products to markets to attain "orderly marketing" is higher prices for the affected commodities. Other methods, such as the recently established producer-held grain reserve which reduces the risk of large price increases during periods of short supply, can accomplish the same objective in a less inflationary fashion. In addition, several studies have indicated that the flow of commodities can be stabilized in a highly efficient manner without government intervention.

As in the case of transportation regulation, agricultural programs that increase prices paid to farmers do not necessarily result in higher farm incomes. The benefits of these programs are often reflected in higher land values. Though this represents a gain to land owners, it also represents an increase in production costs.

International Trade Restrictions. In an effort to protect domestic industries and their employees from foreign competition, a variety of tools designed to restrict imports have been employed. Tariffs, quotas, voluntary agreements

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8/ Council on Wage and Price Stability, Thomas Lenard, "Government Regulation of Milk Markets Discussion Paper," December 3, 1975.

and other arrangements have the effect of limiting imports of products such as televisions, shoes, steel, dairy products, and sugar. The cumulative impact of a large number of these trade restrictions can be highly inflationary. For many products, competition from imports is the only viable restraint on price behavior.

Environment, Health, and Safety

For the most part, regulation aimed at improving the quality of the environment and improving health and safety is of more recent origin than the type of regulation previously discussed. Although the Food and Drug Administration is almost 50 years old (and its activities even older), agencies such as the Environmental Protection Agency, the Occupational Safety and Health Administration, the National Highway Traffic and Safety Administration, and the Consumer Product Safety Commission were all established within the last ten years.

Because most effect industry in general, rather than specific industries, these regulatory agencies have a very large inflationary potential. While the inflationary impact of OSHA and CPSC has been limited because very few major regulations have been promulgated, this situation is likely to change in future years. The EPA has already promulgated far-reaching, and very costly regulations.

The sudden emergence and growth of this form of regulation has presented difficult problems. The objective should be to use the least costly methods of achieving social goals. Yet, there are great difficulties in determining what the specific goals should be. The determination of specific operational environmental and health and safety goals involves a balancing of benefits against costs. The benefits, however, are often not quantifiable to the same degree as the costs. In addition, groups within society may differ sharply as to their perception of the value of the benefits which are achieved.

Moreover, costs are often significantly influenced by the methods employed. Regulatory agencies have exhibited a preference for design standards which specify in detail how the proposed goal is to be achieved. But these standards do not always provide the incentives for achieving a given objective in the least costly manner.

A major reduction in the cost of environmental, health, and safety regulations might be obtained by a change in approach. Substituting penalties and performance standards for more detailed and rigid prescriptions for achieving

a result often would enable us to reach given goals in a less costly fashion. In some cases -- for example in OSHA's regulation of health and safety standards in the workplace -- performance standards could be substituted for detailed regulations which mandate different aspects of a wide variety of plants and equipment. In others, such as EPA's rules for emissions standards for vehicles, less administrative discretion is available for lowering costs.

Environmental Regulation

Significant savings could be achieved in attaining national environmental goals by using a system of economic incentives. For example, with Congressional approval EPA could identify the amounts of specific effluents and emissions consistent with a quality standard. Then a system of penalties or fees could be established which would provide monetary incentives for polluters to meet the standard. Individual firms would have an incentive to develop and apply the most cost-effective approach in dealing with their waste products.

Estimates of savings which might result on a national basis have not been made. However, studies of various regions identify some interesting dimensions. A 1966 study of the Delaware Estuary indicated that the use of effluent charges instead of uniform treatment requirements would have saved $150 million and would have achieved the same water quality standard. 9/ This saving was in the range of 40 to 50 percent of the alternative cost.

In a study of the Air Quality Act of 1967, it was reported that the use of emission fees in the Memphis area would have reduced the cost of meeting the standard by 90 percent. 10/ As with the Delaware study, this report compared a system of economic incentives with a system which required uniform treatment by each discharger.

While these studies are regional, they indicate the advantage of economic incentives in achieving environmental goals. A revision of EPA's approach moving toward standards with fees or penalties and away from uniform treatment requirements with specified technology could generate significant cost and price reductions.

9/ Allen V. Kneese and Charles L. Schultze, Pollution Prices and Public Policy, Brookings Institution, 1975, p. 90.
10/ Ibid.,p. 99

Health and Safety Regulation. To date, OSHA has probably not generated much of an inflationary impact because very few expensive health regulations have been promulgated and enforcement of the national "consensus" regulations has been weak. Most of the costs (and benefits) of OSHA are ahead of us. The coke oven regulation, which was recently promulgated, may produce annual costs of $200 million to $1 billion, 11/ while the industrial noise standard which OSHA has promised to promulgate may impose total costs in present value terms of $2 billion to $30 billion, depending upon the level of stringency and whether hearing protectors or engineering controls are mandated. 12/ Other standards that may be promulgated in 1978 and impose annualized costs of from $100 million to $500 million include cotton dust, arsenic, and lead. 13/

In each case, significant cost savings might result with very little loss in health benefits by allowing personal protective devices as one method of compliance instead of mandating engineering controls. Careful consideration of the length of the compliance period, the use of performance instead of design standards, and varying the level of the standard by industrial categories depending upon cost-effectiveness considerations might also lead to important cost savings with little or no reduction in total protection.

While the CPSC, which is an independent agency, has not to date promulgated many safety standards involving substantial cost, its mandate to regulate consumer products is very broad. Though CPSC has stated that cost-benefit criteria will be taken into account, it is not required to do so; how important these criteria will be in CPSC's decisionmaking is unclear.

In addition to the costs discussed above, regulation imposes additional costs in the form of legal costs, uncertainties, delays, and a paperwork burden that are part of the regulatory process itself. Some of these costs are necessary and result from the legitimate desire to afford all affected parties to a regulatory proceeding the opportunity to state their case. However, some of these costs

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11/ See Council on Wage and Price Stability Testimony Before OSHA (May 11, 1976) CWPS-149.
12/ See Council on Wage and Price Stability Testimony Before OSHA (September 22, 1976) CWPS-187.
13/ See Council on Wage and Price Stability filings Before OSHA on Cotton Dust (June 20, 1977), CWPS-250; Arsenic (September 14, 1976), CWPS-173; and Lead (March 15, 1977), CWPS-234.

could probably be reduced without significant adverse effect, and the savings could be passed on to consumers in the form of lower prices.

Finally, we should point out that the costs of regulation consist largely of nonbudgetary costs, and consequently are not reviewed in any detail by Congress or the Office of Management and Budget. Government agencies, which must live within their budgets, have no similar constraint with regard to these nonbudgetary costs. This is exceedingly important in the case of agencies such as the ICC, which has a budget appropriation of about $50 million per year, but which imposes costs of several billion dollars on the economy each year. 14/

The Tax Structure and Inflation

The relationship between general revenue and expenditure policies and inflation is well recognized. For any given level of government expenditures and money supply, increased taxation is deflationary because it reduces purchasing power within the private sector. To the extent that there is controversy, it is centered on the magnitude of the inflationary effect at different levels of resource utilization. That is, an increase in total demand following a tax reduction will tend to be less inflationary when there is ample unemployed labor and idle industrial capacity than when the available supply is highly utilized. However, less attention has been directed to the fact that alternative tax structures can also have impacts on the level of prices.

The precise measurement of the inflationary effect of substituting one type of a tax for another is complicated by differences in the extent to which the tax can be shifted either forward into higher prices or backward into lower payments to the factors of production. Taxes that are shifted through market processes create varying degrees of inefficiency in resource use and consumption patterns. This arises because such taxes can alter relative prices in a fashion different from what was intended. Therefore, taxes which cannot be shifted generally are considered more efficient and less inflationary than those which can be shifted. In addition, some of these taxes are measured explicitly as part of the Consumer Price Index.

14/ See Budget of the United States, Fiscal Year 1979 and Moore, op. cit., p. 71.

An important exception to this generalization is taxation deliberately designed to alter market prices where these prices fail to reflect certain social costs (pollution, noise, etc.). Such "corrective" taxation improves efficiency. Similarly, user taxes and charges imposed to defray the costs of private use of public facilities can contribute to efficiency since they ration capacity, guide investment and avoid unintended subsidies to individuals and firms.

Normally general income tax changes are thought to have the least impact on prices. Though changes in personal income tax rates may effect work incentives and wage demands in collective bargaining, it is generally thought that such taxes are not shifted and, in this respect, raise revenues in a relatively efficient and noninflationary manner. Most of the available evidence suggests that the allocation of time between work and leisure is not very sensitive to moderate levels of income taxation. Since 1970 the share of Federal revenue provided by the income tax has declined from 46.5 percent to 43.7 percent. To the extent that other taxes that are shifted forward have filled the gap created by income tax reduction, it can be argued that this change has been mildly inflationary.

Perhaps the most significant change in the tax structure has been the steady increase in social security payroll taxes. These taxes, which are not "general" revenue in a technical sense, amounted to about $94 billion in 1976 and now are second only to the personal income tax as a source of government revenue.

Since employees bear the share of payroll taxes that apply to them, these taxes, like income taxes, contribute less to direct price increases than many other taxes. The employer's share of the payroll tax, on the other hand, increases the costs of production and raises prices. Over long periods of time the burden of the employer taxes may be concentrated on workers as firms reduce their demand for labor and rely on more capital intensive methods of production. In the short-run, however, a large portion of the employer's share appears to be shifted forward in higher prices. Moreover, there is some empirical evidence that increases in employee payroll taxes may encourage upward revision of wage demands. 15/ However, the shifting that occurs as a result of imposing this tax probably contributes more to inflation than an equivalent income tax.

15/ See, for example, Robert J. Gordon, "Inflation in Recession and Recovery," BPEA (1:1971), pp. 105-166.

The role of the corporate income tax has declined steadily because of rate reductions, investment tax credits and accelerated depreciation. That trend has been accelerated in recent years by a sharp drop in the corporate profit share of GNP. The impact on prices of this change in the relative role of the corporate income tax is exceedingly difficult to evaluate and is a source of much controversy.

The revenues of State and local governments have been increasing more rapidly than either GNP or Federal revenue. However, the rate of increase in sales and excise taxes which provide the major source of State and local revenue has diminished in recent years, as State and local governments have turned to less inflationary alternatives to finance their growth. The increasing significance of income taxes at the State and local level represents a desirable, albeit modest, reduction in the inflationary effect of the State and local tax structure.

Property taxes continue to play a significant role in the tax system. Property taxes have geographically different impacts on long-run location and investment decisions and are frequently cited as an important source of economic inefficiency. Improved administration and greater uniformity in property taxation would no doubt generate efficiencies in housing markets and locational decisions which would have a desirable effect on inflation.

The changes that are expected to occur in the next few years involve an increasing role for social security taxes coupled with a modest decline in the role of the corporate income tax. The rapid rise of excise taxes proposed as a part of the President's energy program will more than offset proposed reductions in other excise taxes. Thus, these taxes will raise prices; but at the same time, they will improve economic efficiency by bringing consumer energy prices more in line with the incremental costs of new supplies. Thus, they will move forward in time the price increases which would otherwise be long delayed by regulatory controls on the price of existing energy supplies.

Measurement of the Impact on Inflation

The inflation impact of government actions can be illustrated by reviewing some of the major decisions of 1977. Since the economic impact of these decisions will be experienced at different times in the future, it is difficult to measure the increased inflation rate for any specific year. It is possible, however, to indicate the total increase in the price level which will result from each of

these actions over the next four years. On this basis, the dominant inflationary actions of 1977 were the increases in social insurance taxes and the minimum wage. These two actions alone are estimated to add about one percent to the price level over the next four years. In addition, several smaller actions (such as the change in milk price supports, the clean air amendments, maritime oil pollution regulations, and import restraints for shoes, sugar and televisions) together are estimated to account for another 0.3 percent.

In addition to their direct effect, these actions will induce further indirect increases in the price level as the initial price impact ripples through the economy. The indirect effect results principally from the impact of higher prices on wages and then back on other prices. Existing empirical studies suggest that the total effect will be 1.5 to 2 times the direct effect within a two year period. This suggests that government actions (excluding proposals on energy) during 1977 will result in an increase in the price level of about 2 to 2.5 percent in the next 3 to 4 years or approximately a 0.5 percent increase in the annual inflation rate.

Such an analysis does not, of course, take into account the other considerations that went into these decisions. There are often overriding social concerns that must be addressed despite their economic costs. The impact on inflation is only one aspect which must be weighed in such situations, but the record during 1977 does illustrate the significant inflationary potential of government actions. One difficulty in dealing with them in the context of inflation is that the impact on the price level of an individual action is typically small. On the other hand, it is likely to be of large benefit to that special group affected by the other dimensions of the decision. The inflationary effect often, therefore, has little influence on the final outcome. Yet, the cumulative impact on prices can be substantial.

Outlook for Housing Costs

Housing costs, pushed by a complex set of factors, have been rising dramatically and attracting increased attention. The Department of Housing and Urban Development last year convened a large government-public task force to study possible causes of housing cost inflation. At the same time, the Congressional Budget Office and the Harvard-MIT Joint Center for Urban Studies issued reports that concluded that housing cost inflation threatens to consume an increasing

portion of the "typical" American family's budget. 16/ Although many of these studies seem to have overestimated the magnitude of housing cost inflation, they are correct in pointing out that inflation in the housing sector has been a persistent problem over the past few years and is unlikely to dissipate wholly in the near future.

Virtually all major housing price indexes increased more rapidly than the overall Consumer Price Index (CPI) during the ten-year period ending December 1977. (See Table IV-12.) The rental component of the CPI has been the major exception, due to apartment overbuilding during the early 1970s and to rent controls. But low rental vacancy rates and modest supplies of new apartment units portend higher rent increases during 1978. 17/

TABLE IV-12: PERCENTAGE CHANGE IN CONSUMER PRICE INDICES FOR HOUSING: ALL CITIES (December to December)

	1967-1972	1972-1977	1967-1977
Consumer Price Index -- All Items	25.3	46.2	83.2
Housing Component of CPI	29.3	49.2	92.8
Shelter	34.5	44.9	94.9
Rent	19.8	30.5	56.3
Homeownership	39.8	49.4	108.8
Home Purchase	29.4	41.6	83.3
Mortgage Int. Rates	17.3	19.1	39.7
Property Taxes	47.2	25.9	85.3
Property Ins. Premiums	22.4	25.7	55.1
Maintainence & Repairs	41.2	53.2	116.4
Fuel and Utilities	21.5	70.3	107.0

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics and Council calculations.

16/ U.S. Congressional Budget Office, Homeownership: The Changing Relationship of Costs and Incomes and Possible Federal Roles (Washington, D.C.: GPO, January 1977); Frieden and Solomon, The Nation's Housing: 1975-1985 (Cambridge, Mass.: Joint Center for Urban Studies, April 1977).

17/ Marshall A. Kaplan, "Housing and Economic Developments," Federal Home Loan Bank Board Journal (November 1977).

An accurate assessment of housing price inflation must reflect an appropriate historical perspective and should consider both the speculative element in certain housing markets and the changes in housing quality that also effect prices. The Congressional Budget Office and the Harvard-MIT studies, for example, overstate the underlying or long-term inflationary trend by choosing 1970 -- a record year for government subsidized low cost housing -- as the base year for calculating increases in the sales prices of new homes sold in subsequent years. Excluding the two major government housing subsidy programs, new home prices and income have been increasing at nearly the same rate. 18/ Thus, a 10-year perspective that is much less sensitive to these aberrant trends mitigates the rate of housing cost inflation, relative to the inflation rate in other sectors of the economy.

Improvements in the quality of new housing are at least partly responsible for higher housing prices during 1977 and, more generally, over the past decade. Buoyed by gains in personal income since the last recession and by rising housing values, many current homeowners sold their previous houses and purchased bigger, fully equipped new houses on larger lots. Consequently, sales prices of all houses sold are increasing more rapidly than sales prices of houses with the average characteristics of a "fixed-quality house" sold during 1974. 19/ Over the last 10 years, as Table IV-13 shows, the average sales price of new homes increased 136 percent, while fixed-quality housing prices increased approximately 120 percent. The increase in fixed-quality housing prices is slightly higher than the 109 percent increase in construction materials prices and both are significantly higher than the 83 percent increase in the CPI over the same period. Virtually all improvement in housing quality occurred during the latter half of the decade; the fixed-quality housing price increase of approximately 64 percent from 1972 to 1977 equals the 64 percent increase in construction materials prices but still exceeds the 46 percent increase in the overall CPI.

18/ John Weicher, "Affordability of New Homes," AREUEA Journal, Volume 5, 1977, pp. 213-214.

19/ The index of fixed-quality housing costs is constructed by the Census Bureau by holding constant a specific set of characteristics believed to measure change in quality.

TABLE IV-13: PERCENTAGE CHANGE OF SELECTED PRICE INDEXES, (Fourth Quarter)

	1967-1972	1972-1977	1967-1977
CPI -- All Items	25.3	46.0	82.9
WPI -- Construction Materials	27.0	64.3	108.6
New Single Family Homes, Average Sales Prices:			
All Houses Sold	29.5	82.0	135.7
Fixed Quality (1974) Houses	34.1	64.2	120.2

SOURCE: Appendix, Table 1.

There is also reason to believe that the Census Bureau index used for these calculations does not fully adjust the price index for all changes in housing quality. The index considers only ten characteristics that account for 70 percent of housing price variation in 1974. Yet many new houses are equipped with additional features, such as better insulation, storm windows, more kitchen appliances, sewer connections and improved streets, gutters and sidewalks. These factors have undoubtedly contributed to recent housing price increases. It is likely that recent changes in energy prices have led to an emphasis on energy efficient new housing that would not be captured by the index. The now widespread practice of "frontloading" -- that is, development requirements including dedicated land for schools and parks, provisions for sidewalks and gutters and full sewer and water connections -- leads to higher prices for new houses but also reduces future operating costs through lower taxes and utility bills. 20/

A breakdown of the price increases into four regions -- Northeast, North Central, South and West -- reveals that price inflation for new homes has been mainly centered in the West. (See Table IV-14.) For the five-year period ending in 1977, the increase in sales prices for fixed quality houses only slightly exceeds the 45 percent increase in the CPI in all regions but the West where it increased by 87 percent. Also, the average sales price of all houses

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20/ See Stephen R. Seidel, Housing Costs and Government Regulations (New Brunswick, N.J.: Rutgers University, Center for Urban Policy Research, 1978), for a thorough study of the phenomenon.

TABLE IV-14: PERCENT CHANGE IN HOUSING COSTS BY REGION

	1967-1977	1972-1977
Northeast		
All Houses Sold	97.1	52.9
Fixed Quality Houses	105.1	41.7
South		
All Houses Sold	127.0	68.1
Fixed Quality Houses	93.8	47.0
North Central		
All Houses Sold	108.3	75.2
Fixed Quality Houses	97.3	53.2
West		
All Houses Sold	132.6	99.0
Fixed Quality Houses	134.3	86.5
CPI, All Items	31.6	44.9

SOURCE: Appendix, Table 2.

sold in the West increased substantially -- 99 percent over the last five years -- compared with other regional price increases. Improvements in housing quality account for a larger portion of housing price increases in the South and North Central regions than they do for the West and the Northeast. Price increases for new housing in the West -- in excess of those for the rest of the nation -- cannot be attributed solely to improvements in housing quality.

A clue to the causes of this differential inflation might be discovered by examining the components of new housing costs. Appendix Table A-3 presents the data for the major material and labor cost components. The table indicates that from 1973 to 1977, wood flooring, concrete, roofing, floor covering and insulation costs increased most rapidly. Unfortunately, these data do not separate price and quantity changes. When relative prices increase, there is a tendency to economize on expensive materials and to substitute less expensive components. Thus, the actual costs per unit do not rise as much as implied by the increase in material prices.

From 1973 to 1977, material and labor costs increased 48 percent. Excessive price increases for certain construction materials, such as lumber, are not fully reflected in rising material and labor costs, due to reductions in total usage. Between 1972 and 1977, the Douglas fir, Southern pine, and softwood plywood indexes in the WPI increased by

78 percent, 84 percent and 105 percent, respectively. But, reduced usage of lumber in new houses limited their impact. Other construction commodity prices that rose more than average were: plumbing fixtures, 49 percent; gypsum products, 79 percent; Portland Cement, 70 percent; and prepared asphalt roofing, 110 percent. Since material costs did not increase at higher than average inflation rates and because most materials are traded in national markets, it is not likely that material costs can explain the new housing price inflation that is mainly centered in the West.

Similar adjustments in the amount and type of labor required for on-site construction have also blunted the impact of rising hourly wage rates on housing prices. From 1967 to 1972, the wages of workers in contract construction increased far more rapidly than the wages of workers in all manufacturing and the overall CPI. (See Table IV-15.) 21/ The disparity between construction wages and

TABLE IV-15: AVERAGE HOURLY EARNINGS OF PRODUCTION WORKERS: PERCENT CHANGE

Years[a]/	Contract Construction	All Manufacturing	CPI
1967-1972	47.3	36.1	25.3
1972-1977	31.2	48.5	46.2
1967-1977	93.2	102.1	83.2

a/ December-to-December change.

SOURCE: Bureau of Labor Statistics.

21/ An index which measures wage increases of workers in residential housing construction does not exist. According to a 1969 BLS study, 65 percent of the contractors surveyed employed nonunion labor in the construction of single family homes (see U.S. Department of Labor, Bureau of Labor Statistics, Labor and Material Requirements for Construction of Private Single Family Houses, Bulletin 1755, 1972, p. 9). The BLS Average Hourly Earnings Series for Contract Construction is used as a proxy in this discussion, although the measure includes the wages of both union and nonunion construction workers and more accurately describes the movement of wages for workers in commercial construction.

manufacturing wages has spurred greater use of prefabricated materials, shifting jobs from on-site construction to manufacturing. Since prefabricated materials often require less skill to install, skilled on-site labor has dropped from 76.6 percent of all on-site manhours in 1947 to 73.2 percent in 1962 and 68.8 percent in 1969. 22/ Semi-skilled and unskilled manhours have correspondingly increased. During the latter part of the decade, contract construction wage increases have been moderate (compared to increases in manufacturing wages and the CPI) and have not contributed significantly to the recent surge in housing prices.

Builders' financing costs, including construction financing but not mortgages, were a major cause of cost increases for new housing prices between 1970 and 1974. But this is not true for either the last five or ten years ending in 1976 since short-term lending costs returned approximately to their 1971 and 1966 levels from their 1974 historical peak. Thus financial costs cannot explain the increase in new housing prices between 1971 and 1976. Financial markets are also fairly well integrated nationally, leaving unexplained the rapid increase in prices that occurred in the West but not the rest of the country.

The most plausible explanation for the extraordinary inflation in housing prices is the increase in land costs. Certainly land is the least mobile of the factors used in new housing construction and the most sensitive to demand pressure in local markets. Developable land is also variable in supply, subject to local attitudes toward land use and zoning practices. Between 1971 and 1976 the number of new one-family houses sold declined by 13 percent in the Northeast, one percent in the North Central, and 11 percent in the South, while increasing by 12 percent in the West. 23/

Unfortunately a good price index for site costs that adjusts for quality differences or covers the period in question does not exist. The Federal Housing Administration publishes a series on site costs per square foot for Section 203 housing, but in the last few years the program's mortgage limits have biased site values downward. For the last three years the National Association of Home Builders has collected data on land costs per square foot. These data show that land costs per square foot increased by 4 percent between 1974 and 1977. However, the national data mask a 23 percent

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22/ BLS Bulletin 1755, Op. Cit., p. 6.
23/ Calculated from Construction Reports, June 1977, C25, p. 11.

increase in the West compared to actual declines in the Northeast and the South and a slight increase of 5 percent in the North Central area. 24/ Although it is more difficult to quantify the relative increase in the restrictiveness of zoning by region, anecdotal evidence indicates that the West, and California in particular, is the leader. The consensus at a recent National Association of Home Builders Conference on housing costs as expressed by a builder was:

> California is the leader in all regulatory matters, from state coastal zoning laws to environmental impact statements to subdivision reviews. We have been controlled to the point that housing is beginning to be difficult to get in California. . . Although the California phenomenon has not yet spread to other areas, there is no guarantee that it will not in the future. 25/

We conclude, then, that much of the housing cost inflation, so far, is a regional problem related to excess demand, primarily in the West, and shortages of buildable land caused by local land use practices. There does not appear to be an easy solution to this problem, especially at the federal level. Furthermore, it is likely that this problem will spread to other areas -- indeed there is some scattered evidence that it is already occurring. The reason is simple. Existing housing prices adjusted for quality differences tend to follow newly constructed home prices since they are close substitutes. And in most communities the number of voters who own their own homes far exceeds the number of first time home buyers. Thus in many communities there are strong political forces interested in restricting the supply of new homes and in keeping the price of new and existing homes rising at a rate exceeding the average rate of inflation.

The outlook over the next few years for housing costs does not appear either grim or optimistic. Demographic trends are expected to keep the demand for single family homes high but the recent rapid rate of increased sales (a doubling in the annual rate of new one-family houses sold

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24/ Calculated from Quarterly Characteristics of New Homes Sold, various issues, National Association of Home Builders.
25/ National Association of Home Builders, Report of the Housing Cost Conference (May 19-20, 1977), p. 9.

between the beginning of 1975 and 1977) is not expected to continue. This leveling off in sales, even though at a high level, is likely to reduce inflationary pressure, especially on developable land, and perhaps cool the speculative boom, especially in the West. On the other hand, locally imposed limitations on the supply of developable land are likely to continue to provide a push to costs. The forecast increase in mortgage rates may also add to the costs of owning a home, although it will reduce demand pressures. The safest forecast is that the price of new fixed-quality homes will continue to rise at rates one or two percent above the general rate of inflation.

Appendix A

Housing Data

TABLE A-1:

4th Quarter	Average Sales Prices: New Houses Actually Sold	Average Sales Prices: Quality-Adjusted Housing (1974)	Construction Materials (WPI)	All Items (CPI)
1967	$24,400	$25,200	101.1	101.3
1968	27,000	26,900	108.3	106.1
1969	27,100	28,800	110.7	112.2
1970	26,300	29,100	112.6	118.6
1971	28,200	31,400	122.2	122.7
1972	31,600	33,800	128.4	126.9
1973	36,600	36,900	142.1	137.6
1974	39,300	40,400	167.1	154.2
1975	44,400	43,900	176.3	165.5
1976	50,300	48,100	193.4	173.8
1977	57,500	55,500	210.9	185.3

SOURCE: WPI and CPI data from Bureau of Labor Statistics; Average Sales Prices of Single Family Homes from the Bureau of the Census, Construction Reports, C27.

TABLE A-2: AVERAGE SALES PRICES OF KINDS OF NEW ONE-FAMILY HOUSES SOLD IN 1974 COMPARED WITH HOUSES ACTUALLY SOLD

Year	Northeast		South		North Central		West	
	All Houses Sold	Fixed Quality Houses	All Houses Sold	Fixed Quality Houses	All Houses Sold	Fixed Quality Houses	All Houses Sold	Fixed Quality Houses
1967	$27,700	$25,500	$21,100	$24,200	$26,400	$26,400	$26,100	$24,700
1968	30,100	28,000	23,600	25,200	28,500	28,000	27,100	25,400
1969	33,400	30,500	25,300	27,000	29,900	30,700	27,400	27,700
1970	32,800	32,600	24,000	28,000	28,000	30,800	26,900	28,100
1971	34,400	34,600	25,900	30,100	29,900	31,900	28,000	29,000
1972	35,700	36,900	28,500	31,900	31,400	34,000	30,500	31,100
1973	40,600	40,000	33,200	34,100	36,700	36,600	35,300	35,100
1974	43,700	43,700	36,800	36,800	39,300	39,300	39,300	39,300
1975	47,000	47,400	39,600	40,200	43,400	43,000	44,300	44,100
1976	49,600	49,300	43,900	43,000	48,500	46,900	51,800	48,900
1977	54,600	52,300	47,900	46,900	55,000	52,100	60,700	58,000

SOURCE: Bureau of the Census, Construction Reports, C27-77-02.

TABLE A-3: AVERAGE CONSTRUCTION COSTS OF SINGLE FAMILY DETACHED HOUSING AND PERCENT INCREASE (1973-1977)

	1973 Cost	1974 Cost	1975 Cost	1976 Cost	1977 Cost	Percent Increase 1973-1977
Excavation	$ 229.95	$ 248.43	$ 274.21	$ 291.07	$ 328.17	42.6
Masonry	932.53	1,157.68	1,258.47	1,263.92	1,368.80	46.7
Concrete	1,246.08	1,446.35	1,489.23	1,532.80	1,975.33	58.5
Lumber	2,768.46	3,056.00	2,604.05	2,688.85	3,642.88	31.6
Wood Flooring	568.86	753.06	827.90	842.70	898.59	60.0
Millwork	1,649.21	1,838.26	2,041.39	2,059.75	2,251.64	36.5
Carpentry Labor	1,708.36	1,837.05	1,908.16	1,927.45	2,104.61	23.2
Roofing	343.83	456.45	506.19	513.27	554.35	61.2
Gutters	109.01	127.20	137.42	147.92	165.37	51.7
Lath, Plaster & Drywall	873.15	1,055.02	1,067.10	1,083.65	1,244.38	42.5
Tile Work	258.30	313.60	280.04	277.90	265.48	2.8
Floor Covering	424.73	605.14	676.25	724.94	819.49	92.9
Electric Wiring	606.96	658.13	747.25	758.93	859.05	41.5
Lighting	137.59	167.72	171.30	168.88	168.92	22.8
Plumbing	1,356.18	1,558.96	1,664.51	1,680.22	1,797.59	32.5
Heating	746.51	870.69	963.19	1,017.58	1,108.08	48.4
Painting	661.19	743.37	768.49	802.05	961.39	43.9
Insulation	228.84	285.05	274.46	310.66	399.28	74.5
Hardware	296.24	252.53	307.29	319.64	325.53	9.9
Appliances	217.81	241.61	261.75	284.19	294.09	35.0
Incidental Cost	321.92	367.80	386.18	404.07	497.80	54.6
Total Cost	$15,685.70	$18,040.10	$18,645.20	$19,100.44	$22,020.82	40.4

NOTE: Includes labor and materials, but not builder's overhead, profit, financing, marketing and land costs.

SOURCE: National Association of Home Builders.

TABLE A-4: CHANGE IN THE WHOLESALE PRICE INDEX FOR SELECTED CONSTRUCTION MATERIALS

Commodity	Percentage Change (Dec. to Dec.) 1967-1972	1972-1977	1967-1977
Lumber	62.9	73.3	182.3
Softwood Lumber	69.6	77.1	200.3
Douglas Fir	60.9	78.1	186.5
Southern Pine	51.9	83.9	179.3
Softwood Plywood	50.4	104.5	207.6
Plumbing Fixtures	20.8	58.9	91.9
Gypsum Products	11.9	78.5	99.7
Asphalt Roofing	24.2	109.8	160.6
Portland Cement	34.7	70.3	129.4

SOURCE: Bureau of Labor Statistics.

APPENDIX B

SUPPLY/DEMAND BALANCE FOR GRAINS

This ourline explains the procedures and provides the actual and trend data used in deriving the U.S. grain balance shown in Table and the text.

I. Procedures

A. Total available supply (production plus carrying stocks) deviation is the sum of the production and stocks deviations.

$$s_t = P_t + k_t$$

1. Production deviation is actual production relative to trend disappearance plus the annual increment in normal stocks.

$$P_t = P_t - \hat{P}_t$$

2. Stocks deviation is the difference between actual stocks and "normal" stocks.

$$k_t = K_t - \hat{K}_t$$

B. Total actual demand or disappearance deviation is the sum of the consumption and export deviations.

$$d_t = c_t + e_t$$

1. Consumption deviation is the difference in actual and trend consumption.

$$c_t = C_t - \hat{C}_t$$

2. Export deviation is the difference in actual and "normal" exports.

$$e_t = E_t - \hat{E}_t$$

TABLE B-1: ACTUAL U.S. SUPPLY AND DEMAND FOR GRAINS (million metric tons

Marketing Year	U.S. Supply		Disappearance	
	Current Production (P_t)	Beginning Stocks (K_t)	Domestic Consumption (C_t)	Exports (E_t)
1961-1962	161.0	115.7	140.2	34.8
1962-1963	159.3	101.7	136.9	32.9
1963-1964	171.5	91.2	135.0	40.2
1964-1965	157.4	87.5	133.6	39.1
1965-1966	180.0	76.5	149.0	49.3
1966-1967	180.4	58.2	148.0	41.1
1967-1968	203.8	49.5	148.7	42.0
1968-1969	197.7	62.6	157.2	31.3
1969-1970	201.0	71.8	164.8	35.0
1970-1971	183.0	73.0	162.6	38.8
1971-1972	233.6	54.6	174.0	40.8
1972-1973	223.9	73.4	179.9	69.8
1973-1974	233.3	48.0	176.3	73.9
1974-1975	199.4	31.1	140.2	63.0
1975-1976	242.2	27.3	152.5	81.5
1976-1977	251.0	35.5	150.2	76.1
1977-1978	257.8	60.2	161.1	81.3
1978-1979		74.6		

SOURCE: FAS, U.S. Department of Agriculture.

TABLE B-2: U.S. GRAIN SUPPLY AND DEMAND (trend levels)

Marketing Year	U.S. Supply: Trend U.S. Production[a] ($\hat{P}_t$)	U.S. Supply: Normal U.S. Stocks[b] ($\hat{K}_t$)	Disappearance: Trend U.S. Consumption[c] ($\hat{C}_t$)	Disappearance: Normal U.S. Exports[d] ($\hat{E}_t$)
1961-1962	171.4	56.8	132.3	37.6
1962-1963	175.9	58.3	135.5	38.9
1963-1964	180.6	59.9	138.9	40.1
1964-1965	185.4	61.5	142.3	41.4
1965-1966	190.3	63.1	145.9	42.8
1966-1967	195.4	64.8	149.5	44.2
1967-1968	200.6	66.5	153.2	45.7
1968-1969	206.0	68.3	157.0	47.2
1969-1970	211.5	70.1	160.9	48.7
1970-1971	217.1	72.0	164.9	50.3
1971-1972	222.9	73.9	168.9	52.0
1972-1973	228.8	75.9	173.1	53.7
1973-1974	234.0	77.9	177.4	55.4
1974-1975	241.2	80.0	181.8	57.3
1975-1976	247.7	82.1	186.3	59.1
1976-1977	254.8	84.3	191.0	61.1
1977-1978	261.1	86.5	195.6	63.1
1978-1979		88.9		

a/ Trend U.S. Production ($\hat{P}_t$) is defined as trend U.S. consumption plus "normal" U.S. exports plus maintenance of "normal" inventory stocks (i.e., the net demand that U.S. production must face)

$$\hat{P}_t = \hat{C}_t + \hat{E}_t + (\hat{K}_{t+1} - \hat{K}_t) + \hat{D}_t + \Delta \hat{K}_t$$

b/ "Normal" U.S. Stocks (K_t) are defined as the amount carried relative to historical disappearance (i.e., the amount of disappearance that can be accounted for by stocks). The mean ratio of actual stocks (K_t) to trend disappearance is

$$R_{kus} = \frac{1}{16} \sum_{61/62}^{76/77} \left(\frac{K_t}{\hat{D}_t} \right)$$

"Normal" stocks are then

$$\hat{K}_t = R_{kus} \cdot \hat{D}_t$$

The annual increment required to maintain the "normal" stock level is

$$\Delta \hat{K}_t = R_{kus} \cdot \Delta \hat{D}_t$$

c/ Trend U.S. consumption ($\hat{C}_t$) is obtained from the estimated log function*

$$\ln(\hat{C}_t) = \underset{(73.4)}{4.49} + \underset{(6.5)}{0.02}\, t \qquad \bar{R}^2 = .804$$

(t - 1961/62 - 1971/72)

* Numbers in parentheses are coefficient "t" values.

d/ "Normal" U.S. exports ($\hat{E}_t$) are defined as the average ratio (R_x) of U.S. exports to trend world disappearance (i.e., the average proportion of world consumption (less U.S. & USSR) plus net Soviet imports that is accounted for by U.S. exports).

$$\hat{E}_t = R_x \cdot \hat{D}^w_t$$

$$R_x = \frac{1}{16} \sum_{61/62}^{76/77} \left(\frac{E_t}{D^w_t} \right)$$

Trend World Disappearance is world consumption plus Soviet imports.

$$\hat{D}^w_t = C^w_t + M^r_t$$

$\hat{D}^w_t$ is obtained from the estimated log function

$$\ln(\hat{D}^w_t) = \underset{(239.5)}{5.21} + \underset{(26.7)}{0.03}\, t$$

$$\bar{R}^2 = .986$$

(t = 1961/62 = 1971/72)

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON WAGE AND PRICE STABILITY
726 JACKSON PLACE, N.W.
WASHINGTON, D.C. 20506

February 1978

The President
The White House

Dear Mr. President:

Enclosed is the thirteenth quarterly report on the activities of the Council on Wage and Price Stability as required by Section 5 of the Council on Wage and Price Stability Act. This report covers the Council's operations during the three-month period October 1977 through December 1977.

The actions of the Council during that time are listed in Chapter I. Chapters II and III elaborate on the Council's studies, reports, testimony and filings before government agencies during the fourth quarter of 1977. The studies currently underway are discussed in Chapter IV.

The Council will continue its studies of the private sector, evaluating particular price and wage increases as well as the industry-specific factors that shape present and future price movements. The evaluation of the costs and benefits of various government regulations also will continue.

Respectfully,

Charles L. Schultze

Charles L. Schultze
Chairman

Barry Bosworth

Barry P. Bosworth
Director

TABLE OF CONTENTS

COUNCIL AUTHORITY

Congress created the Council on August 20, 1974, by enacting the Council on Wage and Price Stability Act (Public Law 93-387). This Act, which contained an expiration date of August 15, 1975, was amended and extended by the Congress on August 9, 1975 until September 30, 1977 (Public Law 94-78). On October 6, 1977, the President signed into law Public Law 95-121, which extended the Council on Wage and Price Stability until September 30, 1979.

In addition to extending the Council for another two years and increasing its FY 1978 and 1979 authorizations to $2,210,000 for each year, PL 95-121 amended paragraph 5 of section 3 of the Act by calling on the Council to focus attention on the need to move towards full employment. A new paragraph was also added to section 3 directing the Council to:

(9) review information about and analyze the effects on the U.S. economy of --

A. the participation of the United States in international trade and commerce;

B. the changing patterns of supplies and commodities in the world market;

C. the investment of U.S. capital in foreign countries;

D. short- and long-term weather changes in the world;

E. interest rates;

F. capital information; and

G. the changing patterns of world energy supplies and prices.

Public Law 95-121 also strengthens the confidentiality provisions of the original Act by stipulating that information voluntarily submitted to the Council will be treated as confidentially as information obtained through a subpoena or periodic report; it also strengthens the prohibition against disclosure of confidential information.

The complete text of PL 95-121, with the new provisions underlined, appears in the Appendix of this report.

Council Responsibilities

It is the Council's responsibility under the Act to monitor and analyze inflationary activities throughout the economy. In the private sector, the Council examines price and wage activities for inflationary impact. The Council conducts comprehensive studies of certain major industries as well as investigations of specific price or wage increases as they are announced. These investigations are intended to discover whether price increases are warranted by cost or demand considerations. In some instances, the Council has held public hearings to gather data and has issued public reports of its findings. Where the Council has found a wage or price increase to be inflationary, it has issued public statements of its findings and, on occasion, has requested a delay or a reduction in the increase.

The Council also reviews the activities and programs of the departments and agencies of the Federal government to discover whether they have any inflationary impact. It does this in two ways. First, pursuant to Executive Orders 11821 and 11949 and OMB Circular A-107, the Council reviews the "economic impact" analyses that the Executive Branch agencies are required to make of proposed rules and regulations that would have a "major" economic impact. Second, with respect to the independent regulatory agencies as well as the Executive Branch agencies, the Council, pursuant to its statute "review(s) and appraise(s) the various programs, policies, and activities of the departments and agencies of the United States for the purpose of determining the extent to which those programs and activities are contributing to inflation; and intervene(s) and otherwise participate(s) on its own behalf in rulemaking, ratemaking, licensing and other proceedings before any of the departments and agencies of the United States, in order to present its views as to the inflationary impact that might result from the possible outcomes of such proceedings."

The Council has no legislative authority to impose mandatory controls on prices, wages, and interest, rents, profits, dividends or other payments, nor has it the authority to prevent or delay any federal agency action.

CHAPTER I

THE QUARTER AT A GLANCE

The following chronology highlights activities of the Council on Wage and Price Stability during the fourth quarter of 1977. Chapters II and III elaborate on the background and content of many of these actions.

October 5: The Council released its report to the President on economic conditions in the U.S. steel industry.

October 14: The Council filed comments before the Federal Energy Regulatory Commission (FERC) opposing a proposal to preclude public access for one year to data collected by FERC on electric utility purchases of fuel.

October 14: The Council released its analysis of the terms of the collective bargaining agreement reached between the Communication Workers of America and the American Telephone and Telegraph Company. (CWPS-256)

October 18: Council Director Barry Bosworth testified on conditions in the steel industry before the House Banking Committee's Subcommittee on Economic Stabilization.

October 21: Council Director Barry Bosworth testified before the Senate Banking Committee on the lumber industry. The Council staff report on lumber prices was released at this time.

October 31: Council asked the Interstate Commerce Commission (ICC) to deny a request by the nation's railroads for a 5 percent across-the-board freight rate increase. (CWPS-257).

November 14: The Council released its staff report on 1978 model year automobile prices.

November 15: The Council told the U.S. Coast Guard that it found no convincing analysis that spending about $500 million per year to retrofit existing ships with segregated ballast was the most effective way to reduce marine oil pollution. (CWPS-258)

November 23: Council urged the Department of Energy to reject the recommendations of two Administrative Law Judges regarding the pricing of imported liquified natural gas from Algeria. (CWPS-259)

December 20: The Council, in a brief filed with the ICC, strongly reasserted its October 31 statement that rail freight rate increases should not be granted across-the-board.

December 20: The Council released its report, The Inflation and Current Interest Rate Developments.

December 23: The Council urged the Federal Energy Regulatory Commission (FERC) to oppose an EPA proposal to institute "new controls" limiting retail price differentials between leaded and unleaded gasoline. (CWPS-260)

December 28: The Council protested to the Interstate Commerce Commission (ICC) a proposed 10 percent increase in interstate bus fares and package express rates. (CWPS-261)

CHAPTER II

MONITORING THE PRIVATE SECTOR

The Council's responsibility to identify and analyze inflationary influences in the economy extends to both the private and the public sector. Inflationary influences in the private sector are evaluated by the Council's Office of Wage and Price Monitoring. The Council's Office of Government Operations and Research is concerned with examining the inflationary potential of federal regulatory policies. Details of the past quarter's activities of this office will be found in Chapter III. All of the Council's filings in the public sector and its wage and price studies in the private sector are available to the public.

The Council's responsibility to identify and analyze inflationary influences in the private sector extends to long-term structural factors that may affect price and wage movements, as well as to specific price increases.

In its pricing studies, the Council's Office of Wage and Price Monitoring investigates capacity, profit, price, demand, and supply conditions in individual industries or sectors. It also analyzes structural features and changes in the general economic environment -- industrial concentration, noncompetitive practices, comparative price behavior, and other factors -- that may affect the performance of the economy with respect to prices. These studies are used, where appropriate, to urge firms to exercise price restraint.

In monitoring wages, the Office cooperates with labor and management to improve the structure of collective bargaining. It also conducts general wage studies and strives to improve wage data bases in both the public and private sectors of the economy.

A summary of the studies completed and released this quarter follows. A description of the Council's current studies, underway but not completed are described in Chapter IV.

Price Monitoring

STEEL

On August 5, the President asked the Council to report to him on the economic conditions in the American steel industry. The Council delivered its report to the President on October 5; this report is summarized below.

The United States steel industry was hard hit by the deep recession of 1974-75 and the sluggish recovery of world steel demand that followed. The continuation of depressed economic conditions might well be expected for an industry whose major markets are within the highly cyclical durable goods producing sector.

But in addition the steel industry is highly vulnerable to future fluctuations in general economic conditions, suffers from a weak competitive position in world markets, and remains a source of serious inflationary pressures because of much larger-than-average price and cost increases.

The Council reported that no single factor can be identified as responsible for the industry's difficulties, and no single action by the government, the companies or the workers can solve them. But some conclusions were reached.

Domestic Prices and Costs

The rise in finished United States steel prices, totaling 79 percent since the end of 1972, has outpaced the increase in other domestic industrial prices by more than 24 percent, and constitutes a major inflation problem.

-- Steel prices increased by 9.4 percent in the 12 months ending in August 1977, compared with 7.1 percent for all industrials. Additional increases took effect in September.

-- The largest price increases during the 1970s have been recorded for the heavier product lines -- like structurals and bars -- which are subject to less competition from imports and from the non-integrated producers.

-- These price increases cannot be explained by demand conditions, since the industry's utilization of capacity is currently about 80 percent.

-- Although the extent of discounting from list prices has increased in recent recessions, U.S. domestic steel prices are far less flexible than either the domestic or export prices of other countries.

-- The sharp rise in steel prices has been the result of major cost increases for most steel inputs -- coal, iron ore, steel scrap, and labor.

-- Since 1972, coal prices have risen 138 percent; iron ore, 76 percent; and steel scrap, 133 percent.

Hourly employment costs in steel have increased by 66 percent since 1973.

-- While steel and coal workers have long been among the most highly paid workers in American industry, their advantage over other workers has widened sharply in recent years. The differential in steel industry hourly compensation over that of all manufacturing rose from 18 percent in 1952, to 40 percent in 1973, and now equals about 60 percent.

-- We have estimated that the 1977 steel contract settlement will raise hourly compensation by 30 percent over the next three years, or an annual average of 9.3 percent, assuming a general inflation rate of 6 percent.

The Role of Environmental Standards

In part the rise in steel production costs has been a necessary result of the government's efforts to improve the health and safety of steel and coal mine workers and to reduce the damage to the environment which results from the unrestrained mining of coal and iron ore and production of steel.

The current costs of meeting environmental standards do not represent a major portion of the costs of steel production, but in the future they will rise significantly. The

manner in which environmental standards are set and enforced, however, provides a strong disincentive against modernization.

Steel Industry Profits

Profit margins were only 3.6 percent of sales in 1976, compared to 6.4 percent in 1974. And they are substantially below the average of all manufacturing.

-- Profit margins in the first half of 1977 were depressed by very low operating rates, a series of natural disasters, and labor problems in the coal mines.

-- After adjustment for these factors, however, it is evident that depressed markets and import competition have prevented the full passthrough of accumulated cost increases into higher prices.

Foreign Competition

The role of the United States steel industry in world markets has declined dramatically since the mid-1950s. In 1955 the U.S. was the world's largest producer with 39 percent of total output. Today its share has declined to less than 20 percent, matching that of the European Common Market and Japan.

-- While world steel production expanded by 153 percent between 1955 and 1976, U.S. production grew by only 9 percent.

-- In 1955, the United States was a net exporter of steel. But, by 1971 imports had grown to 18 percent of domestic consumption. Imports have been rising again in recent months and average 15 percent of consumption in the first half of 1977.

-- Much of the relative decline in the role of the United States in world markets is not surprising in light of the growing availability of raw materials, the transmission of technology to other countries, and the role of labor costs in production.

Growing competition from imports in recent decades has resulted from sharp declines in the cost of raw materials in

the world economy compared to the domestic U.S. industry; large improvements in the efficiency of ocean transport of raw materials; lower foreign labor costs; and the spread of modern steelmaking technologies to other countries.

-- These factors have been of particular benefit to the Japanese, who built most of their steel industry since the mid-1950s.

-- Compared to the Japanese, the U.S. industry currently has a very small relative advantage in the cost of raw materials. But, if the greater reliance of the Japanese on iron ore relative to steel scrap is taken into account, costs are about equal.

-- Japanese labor costs currently are about half those of the United States. The faster growth of wage rates over the last decade in Japan has been offset by a much higher rate of productivity improvement.

-- The Japanese obtain a second advantage from their ability to construct steelmaking facilities at costs substantially below those of the United States.

-- The Council concluded that Japanese production costs are 15-20 percent below those of the United States. Production costs in Europe are comparable to those of the United States.

Based on 1976 information, the inclusion of transportation costs and duties implies that the Japanese could sell an average mix of products in the U.S. at costs which are approximately 5 percent below those of U.S. producers. A similar comparison for European producers yields costs which are substantially above those of domestic producers.

The Economics of Modernization

The U.S. competitive disadvantage does not result from a wide gap in efficiency relative to other nations. A comparison of modern efficient plants in Japan and the U.S. shows a substantial Japanese cost advantage because of lower capital construction costs, and lower wage rates, and not because of better technology. This implies that the U.S. cost disadvantage could not be substantially reduced by a shift to new "greenfield" plants.

The Import Question

There is currently considerable slack capacity in the world steel industry. The U.S., Western Europe, and Japan, which together account for approximately 80 percent of total free world steel production, are all plagued by problems related to excess capacity. This excess supply situation, resulting largely from the severity of the recent recession and the sporadic and sluggish recovery from it in industrialized nations, will continue to create pressures and incentives for nations to increase exports. At the same time, there will probably be further retirements of capacity.

The Council's steel report laid the groundwork for the U.S. government's recently-initiated new program to deal with the Anti-Dumping Act. Reference prices, based on Japanese cost of production, in effect form an early warning system by which the government triggers its own investigation of possible dumping violations. The Council's staff moreover, calculated the base price for the various imported steel products and thus provided the mechanism for the program.

1978 AUTO PRICES

In an effort to provide the public with a better understanding of price changes for key consumer items, the Council staff annually prepares an analysis of the price increases for new model cars. These price increases are evaluated with respect to changes in costs and the profitability of U.S. automobile manufacturers. The report was compiled from unpublished background data on prices, costs, sales, and profits which the Council requested from the four domestic producers.

The Council report found:

- Total U.S. automobile sales increased 11 percent during the 1977 model year after a 22 percent increase in 1976. Sales of domestic makes rose by only 6 percent, while sales of imports were up 41 percent in 1977.

- The average retail price of a 1978 model base car has been increased by 5.8 percent while the price of an average-equipped car (inclusive of optional equipment) is up 6.0 percent. These percentage increases are virtually identical to last year's retail price increases.

- Substantial variation occurred in the price increases for different car models. Full-size cars experienced the largest percentage increases (6.6 percent at retail, adjusted for equipment changes). Subcompacts declined in price after adjustment for a sizeable increase in formerly optional equipment included in the base price. The differences in pricing by size of car suggest that the automobile industry expects the strongest competition in the subcompact portion of the market.

- Data for labor, materials, and other input prices indicate that their average costs have increased by 7.9 percent for 1978 model cars. This represents a reduction of 2.3 percentage points in the rate of cost inflation relative to the 1977 model year.

- While the rate of increase in costs -- measured with or without a productivity adjustment -- declined from 1977 to 1978 by more than 2 percentage points, the rate of increase in prices was about the same in both years.

- o From 1972 through 1977 average revenue per vehicle has increased $1,990 compared to cost increases of $1,923. In percentage terms, however, the rise in revenue has fallen short of the cost increases. Thus, the industry has managed to recover its increased dollar costs to date, but has not restored profit margins to the levels attained in years when car sales were at record levels.

- o Profit margins of the automobile companies' replacement parts divisions continued to improve during 1977. Based on estimates provided by the industry, before-tax profits as a percent of sales are expected to rise to 13.4 percent from 1976's 12.5 percent.

INTEREST RATES

At the request of Sen. William Proxmire and Rep. Henry Reuss, the Council last summer began an investigation of the 1.5 to 2 percent rise in short-term interest rates that began in the spring of 1977. The Council's final report was released in December.

The Council attempted to determine whether the prime rate had moved in line with other short-term rates in recent months, especially the commercial paper rate, and whether the prime rate had moved in line with changing market conditions. Their examination suggested:

- o The turnaround in rates last spring was not unexpected or premature.

- o The prime rate behavior did not depart from any traditional or secular relationship to various other short-term money market yields.

- o The course of the prime rate over the past several months has not been out of line with market conditions and, more specifically, with trends in the volume of credit.

The Council's report also examined the short-run, intermediate term, and long-term impact on inflation caused by a rise in interest rates.

LUMBER PRICES

By law, the Council is charged with monitoring inflationary trends in the private sector and with examining the impact of government policies on inflation. Its interim report on lumber prices, released in October, 1977, touched on both, since the price of lumber is significantly affected by the availability of timber from the national forests and other public lands.

From January through September 1977, prices of softwood lumber and plywood rose at the rate of 2.1 percent a month, with the most substantial increases in July, August, and September.

The report concluded:

- The rapid rise in lumber and plywood prices through September 1977 was due to the strong residential housing recovery.

- Large swings in lumber prices are the rule rather than the exception, since supply cannot rapidly adjust in the short run. These swings could be somewhat alleviated, however, if more effective efforts were made to moderate the severe cyclical fluctuations in housing and consequently the demand for wood products.

- The demand for housing -- and therefore lumber -- is expected to rise substantially over the next few years due in large part to demographic trends.

- An increase in the supply of lumber could moderate the pressure on lumber prices. However, there is little prospect of a substantial increase in timber supplies from private sources over the next several years. Within existing policy constraints, some increases in the harvest from public lands may occur. However, a greater increase in these supplies would require either a substantial intensification of management practices to increase future yields, or a significant alteration of public land use policies.

Wage Monitoring

COMMUNICATIONS WORKERS SETTLEMENT

In keeping with its policy of analyzing major collective bargaining settlements that can be expected to have an impact on the economy, the Council on October 14 released an analysis of the recent telephone communications settlement. Similar analyses of major settlements in the trucking, electrical equipment, rubber, automobile, and steel industries were issued earlier in pursuit of the Council's legislative mandate to monitor significant wage developments in the economy.

The most important findings in this report:

- The settlement increased wages by 8.3 percent in the first year and 25 percent over the next three years, or 7.7 percent annually, assuming a steady 6 percent rate of inflation.

- The new agreement emphasized greater income security for telephone workers and improved pension and health insurance benefits.

- The cost of benefit provisions was more difficult to calculate, but the Council estimated the total cost of wage and benefit improvements to be 10.8 percent in the first year and 31.2 percent or 9.5 percent annually over the next three years (again, assuming a 6 percent inflation rate). This increase is comparable to increases in other major collective bargaining agreements negotiated in the 1976-77 period.

- Assuming a 6 percent annual growth in productivity over the next three years, the settlement raises the unit cost of providing telephone service by about 2.7 percent in the first year and about 2 percent annually over the next three years.

CHAPTER III

MONITORING FEDERAL ACTIONS

TRANSPORTATION

Railroads

Freight Rate Increases

On October 31, the Council asked the Interstate Commerce Commission (ICC) to deny a request by the nation's railroads for a 5 percent across-the-board freight rate increase.

The railroads requested this increase in order to recover nearly $1 billion that they had incurred in increased costs. While not disputing these costs, the Council said that selective rather than across-the-board rate increases would be less inflationary. In addition, selective increases would encourage management to hold down costs and would be more responsive to the "rate flexibility" provisions of the Railroad Revitalization and Regulatory Reform Act that Congress recently enacted.

On December 20, in a brief filed with the ICC, the Council strongly reasserted its earlier position, that railroad rates should be adjusted to specific conditions in individual markets. The Council also urged the ICC to broaden its consideration of this issue and to look into ways of promoting rate flexibility in a wider array of markets.

Buses

Bus Fares

The Council on December 28 protested a proposed 10 percent increase in interstate bus fares and package express rates. In a filing before the Interstate Commerce Commission, which has jurisdiction over interstate bus fares, the Council urged the ICC to suspend and investigate the proposed increase. The Council asked the ICC to investigate whether:

- The bus industry has properly balanced the level of bus fares and bus service.

- o The bus industry is indeed in a "perilously weak" financial condition, as it claimed when it requested the increase.
- o The bus industry is adjusting to declines in ridership.

The proposed increase in interstate bus fares -- which would become effective January 6, 1978, unless ruled otherwise by the ICC -- follows an 11 percent rate hike granted in May 1977 by the ICC. Taken together, the Council noted, bus rates would rise over 20 percent in less than a year, which is far more than the general increase in prices. In addition, bus users are generally the old, the poor, and the young -- groups that are particularly hard hit by higher bus fares.

The Council also criticized the ICC for using inadequate regulatory standards, and rapped the ICC for its tendency to automatically grant rate increases without looking into the fundamental problems that plague the bus industry.

On January 5, 1978, the ICC turned down the request for a full additional 10 percent increase, pending an investigation of the lawfulness of these increases. The ICC, however, permitted the bus companies to institute a 5 percent increase in passenger fares and 10 percent on package express pending completion of the investigation.

ENERGY

Fuel Cost Data

In a statement before the Federal Energy Regulatory Commission (FERC) on October 14, 1977, the Council opposed a proposal to preclude public access for one year to data collected by FERC on electric utility purchases of fuel. According to the proposal, only staff of FERC and other federal and state agencies would be permitted to examine the data.

A petition by 12 electric utilities claimed that public disclosure of price information placed them at a disadvantage in negotiating fuel purchases, resulting in higher costs to them and to their customers. It was also alleged that the collection and dissemination of this information created dangerous risks of fostering anti-competitive conditions in the fuel supply market.

In opposing the proposal to withhold this data from the public, the Council disagreed with the utilities' analysis and noted that the alleged harm was not substantiated by evidence gained during the five years in which the data was publicly available. Furthermore, the Council said, any collusive behavior by fuel suppliers could be more properly countered by vigorous enforcement of anti-trust laws.

Tank Vessels Carrying Oil in Trade

In comments filed November 15 before the U.S. Coast Guard, the Council said there was no convincing analysis that spending about $500 million per year to retrofit existing ships with segregated ballast was the most effective use of funds to achieve the goal of reduced marine oil pollution.

The Council urged the Coast Guard instead to carefully examine the feasibility, costs, and benefits of alternative methods of reducing oil spills before going ahead with final requirements for segregated ballast retrofit. The Council indicated that alternatives, such as crude oil washing, onshore facilities for the reception of dirty ballast and oil water separators, appear to prevent equivalent amounts of pollution at substantially lower costs.

In addition, the Council pointed out that the proposed Coast Guard regulation could lead to a shortage of U.S. flag tankers. The Council also noted that the proposal as written would be paid for almost exclusively by U.S. citizens in the form of even higher oil prices.

Pricing of Imported Liquified Natural Gas

On November 23 the Council urged the Department of Energy to reject the recommendations of two Administrative Law Judges regarding the pricing of imported liquified natural gas (LNG) from Algeria.

The Administrative Law Judges recommended that the Algerian LNG, which would cost more than twice as much as gas now sold in the United States, be averaged in with the price of all other gas. While this proposal appears to lower the cost of the gas, it basically hides its true cost from consumers, said the Council.

Instead, the Council recommended that the Department of Energy require LNG imports to be priced incrementally -- that is, that the users of this gas pay a price that reflects its full cost.

The Council said that adoption of the Administrative Law Judges' recommendations would, among other things, needlessly increase inflationary pressures and impose a severe strain on the U.S. balance of payments.

Exemption of Motor Gasoline from Mandatory Price and Allocation Regulations

In a December 23 filing before the Federal Energy Regulatory Commission (FERC), the Council opposed an EPA proposal to institute "new controls" to limit retail price differentials between leaded and unleaded gasoline.

EPA proposed these controls to discourage owners of cars with catalytic converters from switching to leaded from unleaded gasoline, thereby destroying the effectiveness of catalytic converters and contributing to air pollution.

The Council said that consumers would incur enormous costs if EPA's proposal were adopted; further, freezing the price differentials would probably lead to elaborate and pervasive controls on the retailing, distribution, and refining segments of the petroleum industry.

Instead, the Council recommended that EPA develop and vigorously pursue enforcement methods for its emission control regulations. Such enforcement would cost consumers far less money and be far more practicable, said the Council.

CHAPTER IV

STUDIES IN PROGRESS

In continuing its program of monitoring price and wage trends and the inflationary potential of government activities, the Council has a number of studies in progress. Reports on many of these will be completed and released during the first and second quarters of 1978.

INDUSTRY PRICE BEHAVIOR

Aluminum

The staff is continuing its work on the aluminum industry. The current efforts are focused on the long-term supply and demand balance, the amount of metal that can be obtained through secondary recovery, the cost of new smelting capacity, and the availability of energy for existing and new facilities. These and other aspects of the current situation in the aluminum industry form the basis of a report that the Council staff will release later.

Coal

In March 1976, the Council released a lengthy study of the coal industry, a study which concentrated on the price increases for coal from 1973-75 and the projected outlook for coal prices in the next decade.

In view of both the increasing importance of coal to U.S. energy policy and recent changes in Federal government environmental and land use policies affecting coal use, the Council is now in the process of updating this earlier report. This study will be released in spring 1978.

Textiles

An adequate supply of industrial capacity is vital to price stability. Consequently, the Council staff has published an ongoing series of studies of the adequacy of capacity in key raw materials industries.

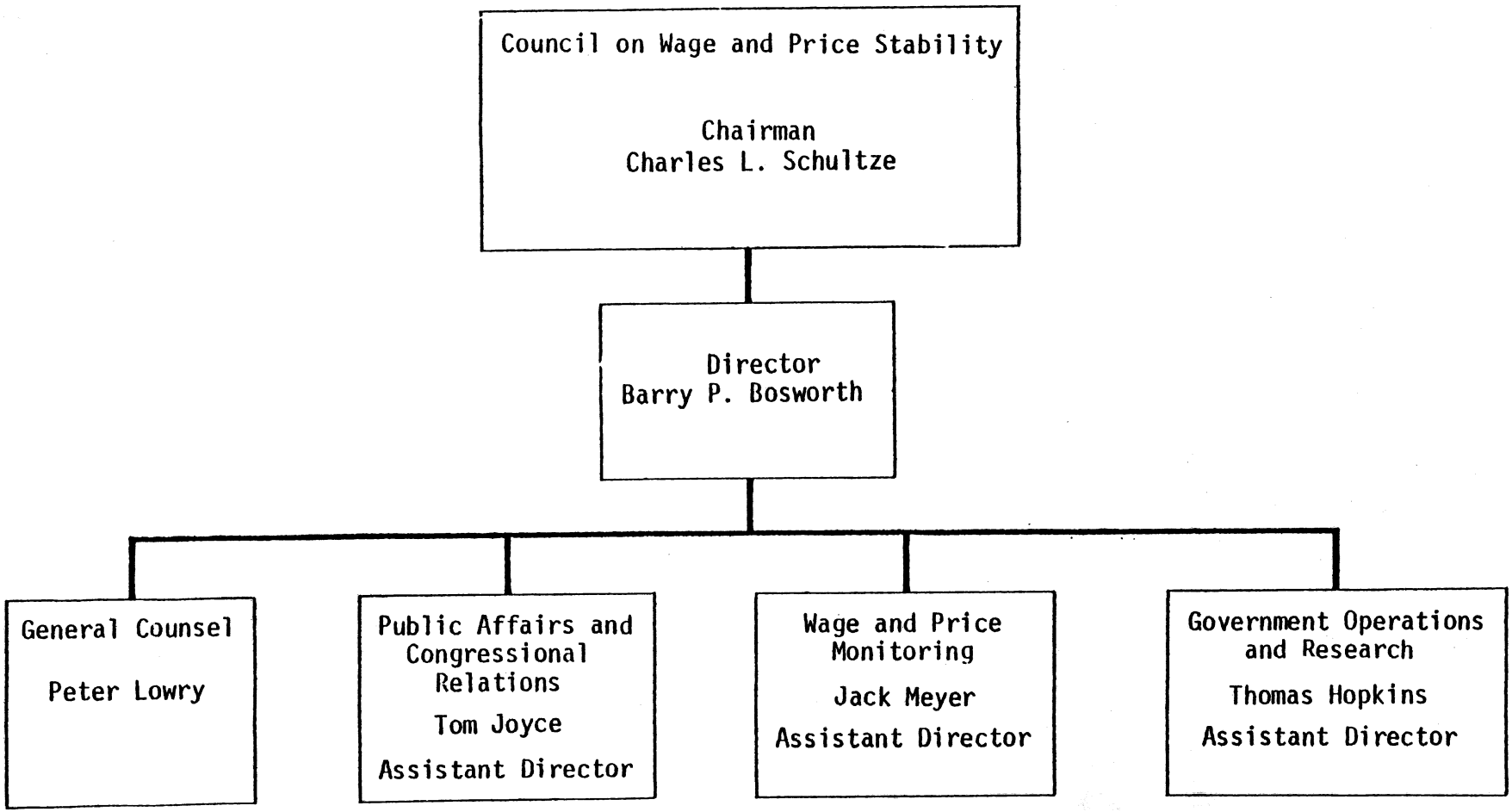
One such key area is the textile industry. The value of shipments of the U.S. textile industry are in excess of

$30 billion per year and the industry is an important supplier of raw materials to apparel, automobile, and housing manufacturers. These three industries are among the largest in the country and therefore the availability of textile supplies has important inflationary implications.

The current study will attempt to estimate the construction costs of a new textile plant, the operating costs over the life of the plant, and finally, the long-run supply and price outlook for various textile products.

APPENDIX A

COUNCIL ON WAGE AND PRICE STABILITY



APPENDIX B

The Council on Wage and Price Stability Act,
Public Law 93-387 (August 24, 1974) as amended
by Public Law 94-78 (August 9, 1975)
and Public Law 95-121 (October 5, 1977)
12 U.S.C. Section 1904, note

AN ACT

To authorize the establishment of a Council on Wage and Price Stability

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Council on Wage and Price Stability Act".

Sec. 2 (a) The President is authorized to establish, within the Executive Office of the President, a Council on Wage and Price Stability (hereinafter referred to as the "Council").

(b) The Council shall consist of eight members appointed by the President and four adviser-members also appointed by the President.

(c) There shall be a Director of the Council who shall be appointed by the President by and with the advice and consent of the Senate. The Director shall be compensated at the rate prescribed for level IV of the Executive Schedule by section 5315 of title 5, United States Code. The Director of the Council shall perform such functions as the President or the Chairman of the Council may prescribe. The Deputy Director shall perform such functions as the Chairman or Director of the Council may prescribe.

(d) The Director of the Council may employ and fix the compensation of such officers and employees, including attorneys, as are necessary to perform the functions of the Council at rates not to exceed the highest rate for grade 15 of the General Schedule under section 5332 of title 5, United States Code. Except that the Director, with the approval of the Chairman may, without regard to the provisions of title 5, United States Code, relating to appointments in the competitive service, appoint and fix the compensation of not to exceed five positions at the rates provided for grades 16, 17, and 18 of such General Schedule, to carry out the functions of the Council.

(e) The Director of the Council may employ experts, expert witnesses, and consultants in accordance with the provisions of section 3109 of title 5, United States Code, and compensate them at rates not in excess of the maximum daily rate prescribed for grade 18 of the General Schedule under section 5332 of title 5, United States Code.

(f) The Director of the Council may, with their consent, utilize the services, personnel, equipment and facilities of Federal, State, regional, and local public agencies and instrumentalities, with or without reimbursement therefor, and may transfer funds made available pursuant to this Act to Federal, State, regional, and local public agencies and instrumentalities as reimbursement for utilization of such services, personnel, equipment, and facilities.

(g) The Council shall have the authority, for any purpose related to this Act, to --

(1) require periodic reports for the submission of information maintained in the ordinary course of business; and

(2) issue subpenas signed by the Chairman or the Director for the attendance and testimony of witnesses and the production of relevant books, papers, and other documents, only to entities whose annual gross revenues are in excess of $5,000,000;

relating to wages, costs, productivity, prices, sales, profits, imports, and exports by product line or by such other categories as the Council may prescribe. The Council shall have the authority to administer oaths to witnesses. Witnesses summoned under the provisions of this section shall be paid the same fees and mileage as are paid to witnesses in the courts of the United States. In case of refusal to obey a subpena served upon any person under the provisions of this section, the Council may request the Attorney General to seek the aid of the United States district court of any district in which such person is found, to compel that person, after notice, to appear and give testimony, or to appear and produce documents before the Council.

Sec. 3 (a) The Council shall --

(1) review and analyze industrial capacity, demand, supply, and the effect of economic concentration and anticompetitive practices, and supply in various sectors of the economy, working with the industrial groups concerned and appropriate governmental agencies to encourage price restraint;

(2) work with labor and management in the various sectors of the economy having special economic problems, as well as with appropriate government agencies, to improve the structure of collective bargaining and the performance of those sectors in restraining prices;

(3) improve wage and price data bases for the various sectors of the economy to improve collective bargaining and encourage price restraint;

(4) conduct public hearings necessary to provide for public scrutiny of inflationary problems in various sectors of the economy for the purpose of controlling inflation;

(5) focus attention on the need to increase productivity in both the public and private sectors of the economy and focus attention on the need to move toward full employment;

(6) monitor the economy as a whole by acquiring as appropriate, reports on wages, costs, productivity, prices, sales, profits, imports, and exports;

(7) review and appraise the various programs, policies, and activities of the departments and agencies of the United States for the purpose of determining the extent to which those programs and activities are contributing to inflation;

(8) intervene and otherwise participate on its own behalf in rulemaking, ratemaking, licensing and other proceedings before any of the departments and agencies of the United States, in order to present its views as to the inflationary impact that might result from the possible outcomes of such proceedings; and

(9) review information about and analyze the effects on the United States economy of --

(A) the participation of the United States in international trade and commerce;

(B) the changing patterns of supplies and prices of commodities in the world market;

(C) the investment of United States capital in foreign countries;

(D) short-and long-term weather changes in the world;

(E) interest rates;

(F) capital formation; and

(G) the changing patterns of world energy supplies and prices.

(b) Nothing in this Act, (1) authorizes the continuation, imposition, or reimposition of any mandatory economic controls with respect to prices, rents, wages, salaries, corporate dividends, or any similar transfers, or (2) affects the authority conferred by the Emergency Petroleum Allocation Act of 1973.

Sec. 4) Any department or agency of the United States which collects, generates, or otherwise prepares or maintains data or information pertaining to the economy or any sector of the economy shall, upon the request of the Chairman of the Council, make that data or information available to the Council.

(b) Disclosure of information obtained by the Council from sources other than Federal, State, or local government agencies and departments shall be in accordance with the provisions of section 552 of title 5, United States Code.

(c) Disclosure by the Council of information obtained from a Federal, State, or local agency or department must be in accord with section 552 of title 5, United States Code, and all the applicable rules of practice and procedure of the agency or department from which the information was obtained.

(d) Disclosure by a member or any employee of the Council of the confidential information as defined in section 1905 of title 18, United States Code, shall be a violation of the criminal code as stated therein.

(e) Consistent with the provisions of section 7213 of the Internal Revenue Code of 1954, nothing in this Act shall be construed as providing for or authorizing any Federal agency to divulge or to make known to the Council the amount or source of income, profits, losses, expenditures, or any particular thereof, set forth or disclosed solely to the provisions of the Internal Revenue Code of 1954, thereof, to be seen or examined by the Council.

(f) (1) Product line or other category information relating to an individual firm or person and obtained under section 2(g) or submitted voluntarily pursuant to a Council request and judged by the Council to be confidential information shall be considered as confidential financial information under section 552(b)(4) of title 5 of the United States Code. Neither the Director nor any member of the Council may permit anyone other than sworn officers, members, and employees of the Council to examine such data.

(2) Periodic reports obtained by the Council under section 2(g) or submitted voluntarily pursuant to a Council request and copies thereof which are retained by the reporting firm or person shall be immune from legal process.

Sec. 5. The Council shall report to the President and through him to the Congress, on a quarterly basis and not later than thirty days after the close of each calendar quarter, concerning its activities, findings, and recommendations with respect to the containment of inflation and the maintenance of a vigorous and prosperous peacetime economy.

Sec. 6. There is hereby authorized to be appropriated not to exceed $1,700,000 for each fiscal year ending prior to October 1, 1977, not to exceed $2,210,000 for the fiscal year ending September 30, 1978, and not to exceed $2,210,000 for the fiscal year ending September 30, 1979, to carry out the purposes of the this Act.

Sec. 7. The authority granted by this Act terminates on September 30, 1979.

APPENDIX C

ECONOMIC IMPACT ANALYSIS PROGRAM

The Council plays a major role in the President's Economic Impact Statement Program (known as the Inflation Impact Statement Program prior to January 1, 1977).* The purpose of this program is to encourage Federal agencies to take greater account of the economic effects of their proposals for major new rules, regulations and legislation. When such a proposal is major (in terms of its cost impact on consumers, business, or Federal, state or local governments; or its effect on productivity, competition, employment or energy) a full economic analysis (Economic Impact Analysis) must be prepared by the proposing agency. If the Economic Impact Analysis relates to a proposed rule or regulation, it is the Council's responsibility to review it. If the statement relates to proposed legislation, responsibility for its review belongs to the Office of Management and Budget.

After review of the agency's analysis, the Council may decide to make formal comments to the agency about the quality of its Economic Impact Analysis and/or about the economic consequences of the regulatory proposal. It should be noted that criticism of an Economic Impact Analysis does not necessarily mean that the Council objects to the proposed regulation. It may mean simply that the Council thinks the agency should provide a better analysis of the regulation's likely economic effects. One of the Council's major aims is to help agencies improve the quality of their economic analysis so that important regulatory decisions are made with fuller awareness of their economic consequences.

Progress has been made in the administration of this program. In consultation with OMB and the Council, agencies have established criteria for identifying those proposals which are important enough to warrant an Economic Impact Analysis. Problems which were serious at the program's outset--particularly tardy compliance and uneven analytical quality--are gradually being resolved. While the Council has filed criticial comments in a number of rulemaking proceedings, most agencies are making a commendable effort to analyze more carefully the major rules and regulations they issue.

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*Established by Executive Order No. 11821 issued November 27, 1974; Executive Order No. 11949 issued December 31, 1976; and OMB Circular No. A-107, issued January 28, 1975.

*U.S. GOVERNMENT PRINTING OFFICE : 1978 O-721-651/786

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